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UNIVERSITY OF ALBERTA

BARRIERS TO INTEGRATION: THE IMMIGRANT PROFESSIONAL ENGINEER EXPERIENCE

By
Karen Elaine Barnes

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A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements for the degree of Master of Education.

Department of Adult, Career and Technology Education

Edmonton, Alberta
Spring 1993

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UNIVERSITY OF ALBERTA

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled Barriers to Integration: The Immigrant Professional Engineer Experience submitted by Karen Elaine Barnes in partial fulfillment of the requirements for the degree of Master of Education.

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Dr. Faye E. Hicks

April 5, 1993

To Dean, Eli and Rhiannon for your unending support and patience,
with love.

ABSTRACT

Are immigrant professional engineers able to integrate into the engineering profession in Canada? If so, what strategies and skills do they employ to achieve success? What barriers do they overcome?

During the last ten years, Canada has allowed many skilled professional engineers to emigrate to this country. Only a few of these people persevere to practise as professional engineers in Canada. Who are those successful immigrants and what are their stories?

The data for this study were gathered through interviews with six professional immigrant engineers in various stages of integration into the engineering profession. Public documents were also examined. These documents included federal immigration regulations and statistics on immigration trends as well as APEGGA and University of Alberta requirements. The words of the participants were analyzed using a grounded theory method. From these data, conclusions were drawn and implications identified for the immigrant service providers and policy makers as well as the engineering profession itself.

ACKNOWLEDGEMENTS

A project that requires eighteen months of one's time to complete cannot be accomplished alone, and certainly this thesis is no exception. There are many people over the past year and a half who helped it along, and to them I say thank-you.

To the six men who made this research possible. I hope I have told their stories honestly and accurately. Their honest and willing contribution to this project was generous and unconditional. Their stories need to be told in order for the situation to improve for those immigrant professional engineers who follow behind.

To my supervisor, Tracey Derwing. It is not often that a person has the privilege of spending a year working very closely with someone they respect, admire and also consider a friend. Thanks Tracey, for all of your hard work on my behalf!!

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CHAPTER ONE

Introduction

Since 1985 I have been employed as a full-time English as a second language teacher for immigrant adults. Many of the students I have taught have had technical or professional training and experience. When they first arrived in Canada, they often came from a third country, where they had been waiting, unable to work, for up to three years. They were, therefore, very eager to return to work in their professions.

In many of my classes there have been a number of professional engineers who arrived assuming they would be able to re-enter their profession once they had acquired English proficiency. They were highly motivated to do well in their English classes in order to move quickly on to the labour force. Some of these engineers were successful in achieving that goal; others gave up up along the way. Many abandoned their former occupations completely.

For many years, the government of Canada has encouraged skilled and educated people in other countries to emigrate to Canada (Employment and Immigration Canada [CEIC], 1989). The government has long recognized that "skilled and professional immigrants not only serve as a replacement for emigrating Canadians, but provide a source of highly qualified manpower, with considerable practical experience, which is difficult for educational and training facilities to provide in the face of rapid industrialization and economic growth" (Richmond & Zuybrzycki, 1984, p. 51).

Many professionals have been attracted to Canada since the end of the second world war. In 1989, 32.5% of immigrants to Canada had some post-secondary education (Alberta Career Development and Employment [CDE], 1990). Among these people were professional engineers. Between 1980 and May 1991, 18,947 immigrant engineers entered Alberta (K. Smith, personal communication, November,1991). Unfortunately, the training and experience these people have received in their countries of origin is not always easy to assess. Their credentials, if they have printed ones, are not always translatable or comparable to Canadian standards. As a result, they may be required to pass some confirmatory examinations to assess their educational background. Alternately, they may choose to upgrade their skills by attending a university or technical program. To compound the problem, a number of these engineers are not sufficiently fluent in English to enter a post-secondary institution. They require language training specifically related to their profession, and the opportunity to develop the high level of English proficiency they require (Ho, 1990; Richmond & Zubrzycki, 1984).

The language barrier is just one of many barriers which have prevented a number of immigrant professional engineers in Alberta from re-entering their profession. Between the years 1987 to 1989, 5,646 foreign-trained engineers entered Alberta (K. Smith, personal communication, November, 1991). During those same years, only 615 foreign-trained engineers applied for professional status from the Alberta Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGGA). 448 of the 615 were granted professional status or became members-in-training (APEGGA, 1991). In other words, very few of the foreign-trained engineers who entered Alberta in those three years were able to fulfill the APEGGA requirements to become registered professionals.

What happens to the rest of the professional engineers who emigrate to Canada but are unable to enter their profession within the first few years of arrival? Do they pursue their goal of professional accreditation through available means or do they move into related occupations? For those whose English proficiency disqualifies them from related occupations, do they move into employment areas that under-utilize or never utilize their skills and experience? In other words, what choices do these immigrant professional engineers face in their first few years regarding their future employment and what influences the choices they do make; and what, if any, measures are in place to help people identify ways in which they may use their skills?

The statistics and literature surrounding the situation for immigrant professional engineers demonstrate clearly that many barriers exist for these immigrants. What is missing, however, is comprehensive research with the immigrants themselves to discover how they describe their experience, and how these perceptions affect their transition into Canadian society. In addition, no data have been collected which illustrate conditions and institutional structures in place which immigrants perceive as facilitating and expediting their integration into the mainstream society. The experience of successful immigrant professional engineers in achieving full professional status in Alberta needs to be documented and analyzed in order to fully understand the process of professional integration for this group.

Statement of the Problem

In examining the many facets of the situation for immigrant professional engineers, it seemed clear that this research should concentrate on the immigrants themselves. My initial question then, is this: how does the immigrant professional engineer experience his/her process of entry into professional engineering in Alberta?

For the purposes of this study, certain specific areas of interest were identified and developed. The goals of the research are:

1. To identify and describe the 'reality' of being an immigrant professional engineer in Alberta.
2. To identify and describe both the barriers and aids to professional re-entry that immigrant engineers themselves articulate in describing their experiences.
3. To identify and describe where immigrant professional engineers acquire knowledge regarding barriers and aids.
4. To identify and describe the process immigrant professional engineers engage in as they attempt professional re-entry.
5. To provide an analysis of how perceived barriers and aids ease or hinder re-entry of immigrant professional engineers.

6. To identify and describe existing procedures and policies to which a foreign-trained professional engineer must adhere in order to become registered as a professional engineer in Alberta.
7. To make recommendations which might expedite the process of professional re-entry for immigrant professional engineers in the future.

Process of the Study

In order to most accurately articulate the professional immigrant engineer experience, a qualitative interpretive framework was chosen for this study. A grounded theory method of analysis was adopted to examine and analyze interview data.

A series of steps were followed during this research. The steps were not, however, followed in a linear fashion, but rather overlapped one another and spiralled back on one another as my needs as a researcher developed. For example, I conducted second interviews with two of the participants before I introduced a third participant, while at the same time reviewing literature as it became relevant to the understanding of the data being collected and analyzed. In describing the 'steps', therefore, I will identify them only as different parts of the entire process.

In Part 'A' I examined available information regarding immigration and the immigrant experience to provide background and set the context of the study. This initial literature review included immigration statistics and materials on government immigration and training policy, professional accreditation information as well as information on the types of settlement aid that immigrants receive from non-governmental organizations. Information interviews were conducted with a vocational counsellor at a settlement agency and the registrar of APEGGA. These interviews were then transcribed and the transcriptions approved by the interviewees. This information provided me with sufficient background information to demonstrate an understanding of the situation to the participants at the initial interview.

In Part 'B' I reviewed the grounded theory research methodology which was used to collect and analyze the data from the immigrants themselves. Corbin and Strauss's process of analysis, as outlined in their book: Basics of Qualitative Research (1990) was used as a structural guide.

Part 'C' was the interview collection stage. I started by interviewing two former students with whom I had kept in touch. Both were engineers. The third participant was suggested to me by my supervisor. The fourth interviewee was suggested by a colleague. The last two interviewees were engineers who had recently been registered with APEGGA. The registrar at APEGGA contacted them for me and then passed on their phone numbers and I contacted them directly.

Interviews were conducted either in person or by telephone. Two of the participants lived in other cities in Alberta. As each interview was completed, they were immediately transcribed and analyzed, then sent to the participants to be read before the next interview. Through analysis of the data and by comparing the data from different participants, thematic categories were identified. These categories were discussed and elaborated upon in the second interviews.

Transcriptions were made from the second interviews and returned to the participants to be verified. Telephone contact was then made with each interviewee to make sure that he was satisfied with his participation in the process and to check if he had any further input.

Finally, in Part 'D' I conducted a further literature review. Questions arose during the interview process which required a more thorough examination of related literature.

Definition of Terms

1. PROFESSIONAL ENGINEER

   This is the designation used by the professional association in Alberta to describe an engineer, trained by a recognized university and accredited by the professional association (University of Alberta Calendar, 1991/92, pages 182-3, APEGGA literature).

2. CEIC CATEGORIES FOR ENGINEERS[1]:

- Architectural Engineers
- Chemical Engineers
- Civil Engineers
- Electrical Engineers
- Industrial Engineers
- Mechanical Engineers
- Metallurgical Engineers
- Mining Engineers
- Petroleum Engineers
- Aerospace Engineers
- Nuclear Engineers
- Other

2. ABBREVIATIONS

- APEGGA - The Association of Professional Engineers, Geologists and Geophysicists of Alberta.
- CEIC - Canada Employment and Immigration Centre
- Alberta CDE - Alberta Career Development and Employment
- ESL - English as a Second Language
- ESP - English for Special Purposes
- P. Eng. - Professional Engineer
- M. Eng. - Master's of Engineering
- TOEFL - Test of English as a Foreign Language

Need for Study

Canada needs trained and experienced professional engineers (Employment and Immigration Canada, 1987). Despite the current slowdown in the economy which has recent engineering graduates from Canadian universities unable to find work, the Canadian Council of

---

[1] Employment and Immigration Canada. (1991). General Occupations List - 1991. Occupations open prospective independent immigrants. Ottawa: Minister of Supply and Services.

Professional Engineers "predicts a shortage of 25,000 to 45,000 engineers in Canada by the end of this decade" (Litchfield, 1991, p.60). This demand is being met partly through immigration (Richmond & Zubrzycki, 1984). Unfortunately non-English speaking engineers entering Canada and wanting to practise in their profession face many barriers, often insurmountable. Consequently, these people are underemployed and their skill and experience wasted. The personal frustration arising from this situation has the potential to erode self-esteem which in turn causes problems for these professionals and their families, as well as society in general. It is imperative, therefore, that programs be put in place which will enable these immigrants to take their place within their profession and contribute to the Canadian economy.

The Standing Committee on Industry, Science and Technology, Regional and Northern Development stated as one of its 1990 recommendations, that "(provincial) governments seek to eliminate artificial barriers that prevent this country from utilizing the skills of landed immigrants" (Sparrow, 1990, p. 17). Many systemic barriers have been identified by people working with immigrants and are clearly described in the literature (Burnaby, 1992; Ho, 1990; Koznik, 1991; Magahay, Myers, & Larsen, 1990; Penner, 1988; Richmond, & Zybrzycki, 1984). What is missing is an understanding of how the immigrants themselves view their situation. If, as educators, we can develop a clear and in-depth understanding of how immigrants perceive the barriers to full employment, we may be able to improve educational and employment services and move closer to achieving optimum employment for immigrant professionals.

CHAPTER TWO

Setting the Context

In developing the categories that arose from the study, five areas were identified as being of importance, namely: immigration policy, language training, accessibility of information, professional accreditation and motivation theory. The literature surrounding these five topics will be examined here. In addition, the literature pertaining to the grounded theory method of research will be introduced at the end of this chapter.

Immigration Policy

Canada's immigration policy identifies three classes of legal immigrants. These are family class, refugees and independent immigrants. Family class immigrants are those people who are sponsored by eligible family members already residing in Canada. These immigrants are not assessed under the point system, but must meet certain requirements of good health and character. The sponsoring relative in Canada is "required to sign an undertaking of support in which the sponsor promises to provide for lodging, care, and maintenance of the applicant and accompanying dependents for a period of up to ten years" (Employment and Immigration Canada, 1989, p.9). In Alberta, 34.2% of the immigrants arriving in 1989 were defined as family class (Alberta Career Development and Employment, 1990, p. 9). These people are eligible for language training and the other community support services available to immigrants, apart from training allowances or social services.

Three categories of refugees are "eligible for selection from abroad on humanitarian grounds" (Employment and Immigration Canada, 1989, p. 15). *Convention* refugees (a definition based on the United Nations Convention and Protocol Relating to the Status of Refugees) are persons who are unable or unwilling to return to their country of origin for fear of persecution. *Designated* refugees are from three designated classes that don't fit the strict definition of the U.N. Convention. These are persons who are: 1) Indo-chinese, 2) political prisoners and oppressed persons; or 3) self-exiled persons. A third category of immigrants termed refugees enter

Canada under *special humanitarian measures.* These refugees are those persons in need of immediate humanitarian need and resettlement, but who may not fit the guidelines of the other categories.

Refugees may be sponsored by government, eligible citizens or permanent residents, or local legally incorporated organizations. The sponsorship agreement ensures that the sponsoring person or organization agrees to provide resettlement assistance for a period of one year. Refugees are entitled to federal and provincial services which include social services, language training, health care and interest-free loans to travel to Canada. In 1989, 27.7% of the immigrants to Alberta were refugees (Alberta CDE, 1990, p. 9).

The remainder of the newcomers to Alberta in 1989 (38.1%) were independent class immigrants (Alberta CDE, 1990, p. 9). Independent immigrants include those persons applying to immigrate on their own initiative. This class is assessed according to a point system which examines criteria designed to reflect the applicant's ability to become successfully established in Canada. Emphasis is placed on practical training, relatives in the country, experience, education and capability, as well as age, knowledge of official languages, and personal suitability (Employment and Immigration Canada, 1989, p. 14). As independent immigrants, these people are expected to be primarily self-sufficient once they have entered Canada. If they lack proficiency in either of the official languages, they are eligible for language training.

Professional engineers enter Canada from many different countries, and may be classed under any of the three designations, depending upon their personal circumstances. Engineers are considered 'suitable' candidates and are awarded points for their education and experience (see Table 2-1). Applicants in 1991 were awarded one point for vocational preparation (Employment and Immigration Canada, 1991). If applicants in each of the 10 classes[2] of professional engineers were also awarded points for knowledge of English, or other of the criteria outlined in the table below, they would have achieved a sufficient number (70+) of points to enter the country.

---

[2] Architectural, chemical, civil, electrical, industrial, mechanical, metallurgical, mining, petroleum, aerospace, and nuclear engineers (CEIC, 1991 General Occupations List)

Table 2-1

Selection Criteria for Assisted Relatives and Other Independent Immigrants[3]

Factor	**Units of assessment**
Education	12 maximum
Specific vocational preparation	15 maximum
Experience	8 maximum
Occupation	10 maximum
Arranged employment	10 maximum
Demographic factor	10 maximum
Age	10 maximum
Knowledge of English or French	15 maximum
Personal suitability	10 maximum
TOTAL	**100**
PASS MARK	**70**

Language Training

The national organization of teachers of English as a second language, TESL Canada, has produced a report (1991) which identifies three phases of transition into Canadian life. These are orientation, integration and participation. *Orientation* occurs immediately after arrival in Canada and is "concerned with satisfying basic needs; securing shelter, developing a support system, acquiring minimum facility with French or English, minimum acquaintance with 'Canadian ways', and work, frequently any kind of work" (Magahay, et al.,1991, p. 2). The second phase, *integration*, is the time during which the immigrant begins to interact with many institutions and organizations in the Canadian context. The final phase, *participation*, is the ultimate goal of Canada's immigration policy; to have each immigrant participate "in the full spectrum of the economic, political, social and cultural life of Canada" (p. 2).

---

[3] Adapted from CEIC, 1989, p.14.

The authors of the TESL Canada report argue that these three phases should be sequential. For full participation to occur, an immigrant must progress through orientation and then integration. Unfortunately, orientation and integration programs are often offered as alternatives to one another. The new language training policy of the federal government, implemented in the fall of 1992, is a good example. The new policy outlines assessment criteria such that those immigrants whose English proficiency is assessed as very low or non-existent will receive basic language training to orient them to English as well as to the Canadian context. A small percentage of those immigrants whose English proficiency is deemed 'sufficient' will be streamed into vocational training programs where applicable, designed to integrate the newcomer into the labour force as quickly as possible. Those immigrants who are eligible for labour market training will, therefore, be moved directly into the integration phase, without sufficient time to become oriented to their new culture and its social context. Although funding for language training programs has been increased, programming in the vocational or labour market stream will receive only 20% of overall language training dollars, half of which is designated for living allowances. Thus only 10% of the language training funds are committed to immigrants with more than a very limited prior knowledge of English (Employment and Immigration Canada, 1992). As a result, many of the immigrants who arrive with a 'sufficient' amount of English proficiency will not be able to access vocationally-oriented language courses.

What does this mean for immigrant professional engineers? The majority of professionally trained and experienced immigrant engineers who arrive in Alberta already have a basic knowledge of English and are able to 'get by' on a day-to-day basis. A working knowledge of English does not, however, guarantee smooth adjustment into a new culture. Those immigrants who are unable to access government-sponsored language training programs will not receive much assistance with orientation. They will be expected to adjust on their own.

Assuming that some professional immigrant engineers are able to access vocational language training programs; what is the next step? The vocational language training programs available in Canada are, for the most part, geared to address the needs of those immigrants whose skills are in the trades or semi-skilled areas of the labour market. If professional engineers are able to enroll in, and complete these programs, they will still lack the necessary English skills and/or technical knowledge to enter university-level courses or become accredited in their profession. As Magahay et al. point out; "insufficient effort, time and expense seem to have been devoted to ensuring that curricula, and exit levels of full-time ESL programs are coordinated with the requirement of other educational courses" (1991, p. 42). There are few, if any, programs available to ease professional immigrants into their occupations. In Alberta, there are no government-sponsored language programs designed to assist engineers specifically with this problem.

The new federal language training policy (LINC) is designed to "ensure that more immigrants have access to the best possible training. A key to developing the most effective training possible is a commitment to provide training better suited to the individual needs of clients." (Employment and Immigration Canada, p.1, 1991). The reality, however, is that professionally trained immigrants are not receiving the language training they need. "Without such specialized courses in technical vocabulary, the opportunities open to immigrants to obtain employment in their chosen fields are significantly reduced" (Magahay, et al., 1991, p. 48).

In addition to the technical language required of engineers, a high proficiency in communicative skills is necessary. A study of foreign engineers (Yin,1988) found that the greatest barrier facing them was their inability to communicate during interviews or with co-workers and managers on the job. This inability to properly articulate their technical knowledge proved a considerable hindrance:

> Employers agreed unanimously that ability to get on with people and to motivate subordinates through good communication skills was an important criterion for promotion. (Yin, 1988, p. 105)

This type of communicative English, specific to the engineering workplace culture, is imperative if foreign engineers are to have an equal opportunity to access all levels of employment within their field.

The third phase outlined in the TESL Canada report is 'participation.' In order to fully participate in Canadian society, it is assumed that people need to be successfully employed in the occupation of their choice. Those professional engineers who are unable to become accredited within their profession face a future of underemployment in jobs that do not utilize their skills or experience.

Language plays a central role in the integration of immigrants. There are many issues surrounding language training, including access and financing. It is imperative that policy be created and regularly reviewed that will allow individual immigrants to choose the most appropriate language training program for them.

Accessing Information

One of the most frustrating situations facing immigrants and immigrant serving agencies is the lack of coordination between the myriad of organizations and government departments which play a part in the integration process of newcomers. Immigrants are faced with the monumental task of trying to sort out where and how to get information about every aspect of their lives within the first few weeks or months of their arrival in Canada. Add to this the problems of dealing with an unfamiliar language and culture and the task becomes almost insurmountable.

The result of this confusion is that the majority of new immigrants seem to be unaware of the options that are available to them. These might include issues of housing, childcare, training allowances, job training, language training or other types of social services which most Canadian-born residents take for granted.

The two routes to full employment and accreditation for immigrant professionals are either to find work in the field or to obtain further training. Yet it seems that one of the barriers facing these immigrants is the inaccessibility of adequate information about these areas. A study conducted with ESL students in Winnipeg found that 77.7% of those surveyed didn't know what requirements they had to meet in order to be accepted into community college programs. 70% didn't know what they needed in order to enrol at a university. In addition, 52% said they were not familiar with student aid and loans; 35.8% were not sure how to apply and what the eligibility rules were (Koznik, 1991, p. 6). Finally, 72.5% reported that they would not know where to look for information and advice related to employment (p.7).

Recently, the Alberta Teachers of English as a Second Language (ATESL) sponsored a survey of ESL learners in Edmonton (Bucumi, 1992). 110 students in six different ESL programs in Edmonton completed a questionnaire concentrating on three areas of their lives: English learning, social and counselling services and post-ESL: finding a job or further education. The results of this survey indicated that the most pressing need for learners was to be given information about the world facing them outside the walls of the classroom. Of particular concern were job-related issues, such as how and where to look for a job, re-training opportunities and availability of further language training.

In December 1988, the government of Alberta "responded to concerns expressed by a number of organizations that licensing and regulatory bodies were not properly recognizing training and experience obtained outside Canada". (Government of Alberta, p. v, 1992) A task force was established to investigate this concern. Representatives from a variety of organizations concerned with immigrants' needs were asked to participate. A report of the task force findings: Bridging the gap: a report of the task force on the recognition of foreign qualifications, was published in 1992.

One of the problem areas uncovered by the task force was that "inaccurate and often misleading information (is being) provided by foreign offices" (1992, p. 80). An example of this would be applicants to a foreign embassy being told their profession is in short supply in Canada. They then arrive here to discover that their training is not recognized. Another situation might be that applicants are awarded extra points on the point system precisely because they are professionals only to discover that their educational credentials are insufficient to meet Alberta standards.

The task force report goes on to discuss the dilemma facing those whose training is only partially sufficient.

> Often only an insignificant portion of their foreign training was accepted. In several instances, they were not given specific information about how to rectify the deficiencies; they were simply told their qualifications were not recognized. Even when foreign applicants were given specific information about the shortcomings in their education and the additional training required to bring it up to an acceptable level the necessary courses were often not available. (p. 81)

Access to clear, accurate, understandable and thorough information relating to all aspects of their life is essential if newcomers to Canada are going to integrate as quickly and painlessly as possible. In Bridging the gap (1992), the task force recommended that an information processing centre be established where professional immigrants can obtain accurate information about their profession and job re-entry. This is a step towards the coordinated effort that is needed to make the newly arrived immigrants' lives a little less bewildering.

Professional Accreditation

All those concerned with professions recognize the importance of having established standards by which to assess foreign credentials. The existence of such standards ensures that discriminatory practises do not take place in the registration of foreign-trained professionals.

Under Alberta statute, 'professional engineers', in order to be called by that term, must be registered by the provincial professional association: the Association of Professional Engineers, Geologists, and Geophysicists of Alberta (APEGGA). Students who graduate from an Alberta university with a Bachelor's or Master's degree in any of the engineering fields must complete two years of work experience and pass a professional practice exam before they can become professional engineers.

APEGGA is also responsible for assessing foreign credentials in order to award professional status. APEGGA has developed and strictly enforces a system by which applicants with foreign degrees can become registered.

APEGGA has three areas of concern when assessing foreign credentials. These are academic, experience and general. They are described in their information pamphlet:

> Academic
> A confirmed degree, with education documentation submitted directly to APEGGA from the institution attended, in Engineering, Geology or Geophysics from a university program approved by the Board of Examiners or equivalent qualifications demonstrated by passing such examinations assessed by the Board. Engineering programs accredited by the Canadian Engineering Accreditation Board, (CEBA) are considered "approved university programs."
>
> Experience
> 1. When the academic qualifications are met by an acceptable university degree, or by passing confirmatory examinations, at least two years of experience satisfactory to the Board of Examiners in the practice of engineering subsequent to university graduation.
> 2. When the academic qualifications are met by passing examinations prescribed by the Board of Examiners, a total of six years of engineering work, at least one of which must be obtained subsequent to meeting academic requirements, of a nature satisfactory to the Board.

General

1. Completion of an examination in professional practice.
2. Satisfactory communication abilities in the English language, normally demonstrated, in the case of applicants whose native language is not English, by a TOEFL test.
3. Good character and reputation. (APEGGA, 1992)

Before APEGGA will assess an application, the applicant must provide transcripts and proof of graduation from a degree program. The transcripts are expected to come as originals directly from the institutions themselves. This can often take six months or longer. In some cases, foreign engineers may have some difficulty obtaining these transcripts. Many countries are loathe to send out any documentation pertaining to former citizens who have escaped.

Once the documents have reached APEGGA, the academic examiner will assess them. When assessing academic credentials, APEGGA consults two lists of foreign universities. One list contains those universities which are recognized as granting equivalent or near-equivalent engineering degrees to Canadian universities. Applicants whose training is from these universities are likely to be assessed three confirmatory exams. If an applicant's training is from a foreign university not on this list, it means that APEGGA and indeed, the Canadian Foreign Engineering Qualification Board (FEQB) do not have enough published information about these schools to put them on the foreign degree list. These applicants will most likely be required to write nine confirmatory exams. As an example of both lists, most Western schools, some Chinese schools and some Eastern European schools (Polish, Romanian) are included on the foreign degree list, while no Russian, African or South American schools are listed.

An applicant is also required to provide references from former employers to confirm experience. Again this can be a problem if those employers were government officials in the country of origin.

These references are then sent before an experience examiner. If the candidate appears to have sufficient experience, his application may go before the full experience committee which will then decide whether or not the experience is significant enough to waive or reduce exams.

Applicants are then required to write confirmatory exams within a specified time period. Once they have passed these, they will be required to write the professional practice exam and achieve a score of 600 on the TOEFL. It is possible to have the TOEFL requirement waived if English proficiency can be demonstrated.

In order to expedite the process, APEGGA provides a document translation service free of charge which, unfortunately, is not advertised in their literature. The association also provides necessary study materials for approximately $100.00 per exam.

The rigorous process outlined above creates a formidable barrier for many new engineers. The process can take years; indeed it took one candidate ten years to complete! There is a fee for the initial application as well as for each examination. The applicant, once 'qualified', is required to join APEGGA and pay the annual dues.

Motivation

What prompts successful professional engineers to leave job, family and country behind in order to come to a new country, where the language and culture are completely foreign and the chances of working in a familiar milieu are very poor? What is it that motivates these same engineers to return to the hard work of studying and learning a new language, putting aside the needs of their family and themselves, in order to work in their field again? Literature on motivation theory is relevant here because the success of professional immigrant engineers in job re-entry may be due to their personal motivation in achieving their goals, rather than any assistance or encouragement they may receive from outside sources.

The motivation literature is varied and extensive. The areas that are most appropriate to this research are those concerned with adults in a learning context as well as motivation theories related to language acquisition. Language acquisition is a vital ingredient in the re-entry process and one that is often perceived to be the biggest stumbling block for professional immigrants.

Houle conducted a landmark study with adult learners to identify what motivates an adult to pursue further education. After studying twenty-two adult learners, he developed the following three categories of learners: goal-oriented, activity-oriented and learning-oriented (cited in Darkenwald & Merriam, 1982).

Goal-oriented learners are those who "use education as a means of accomplishing fairly clear-cut objectives." (Boshier, 1971, p. 4). For example a person who needs further re-training in order to gain a promotion or access a particular job is goal-oriented. For this individual, the process of learning is merely a means to an end.

Activity-oriented learners are those whose reasons for participating may or may not be connected to the content. These learners are concerned with the process of learning or the social aspect of a learning situation.

Learning-oriented adults are involved for the experience of seeking knowledge (Boshier, 1971). Adults registered in general interest programs in continuing education departments are good examples of this type of learner.

Crookes and Schmidt (1991) refer to Maehr and Archer's 1987 work which names four aspects of motivation: direction, persistence, continuing motivation, and activity level. Two of these are seen as particularly pertinent to this research: persistence and direction. Persistence is "concentrating attention or action on the same thing for an extended duration" (Crookes and Schmidt, p. 481). Direction refers to "carrying out one among a set of activities or attending to one thing and not another, or engaging in some activity and not others" (p. 481). Successful professionals are usually those who are able to concentrate on the task at hand without being distracted or interrupted, despite tremendous outside pressures such as family and financial obligations.

A discussion of motivation is incomplete without discussing extrinsic vs. intrinsic motivation. Extrinsic motivation can be defined as motivation that comes from outside the learner; for example, the Canada Employment Centre may send an immigrant to language classes in order to enter the job market as quickly as possible, even if the class content is not what the learner really needs; the motivation to learn English may not be the primary goal of the learner at that time. Intrinsic motivation comes from within the learner. Foreign engineers are people accustomed to success. They have usually been successful in their academic careers and are used to hard work and the rewards that follow. These engineers are usually highly motivated to learn the necessary skills for engineering and will be motivated to study hard in order to attain a higher social status. If learners believe that they control their own learning, and attribute success or failure to their own efforts, they are more highly motivated than those who "attribute outcomes to external causes" (Crookes & Schmidt, 1991, p. 482).

Another branch of the motivation literature examines barriers to participation in adult education. One of the goals of my research was to identify the barriers that professional immigrant engineers perceive when attempting to re-enter their profession in Canada. Darkenwald & Merriam (1982) have categorized such barriers into four general types: situational, institutional, informational, and psychosocial.

Situational barriers consist of aspects of an individual's social and physical environment such as income, availability of transportation, child care, etc. Most immigrants arrive in this country with almost no money or possessions. It takes some time before the restrictions of a very limited training allowance or minimum wage job allow professional immigrants to spend money on things such as printing a résumé or buying a business suit, much less spending up to $1000 on qualifying exams. Learning the culture of a new country in order to properly handle a job interview also takes time.

Institutional barriers are components within an institution which prevent access such as schedules, location, or lack of appropriate courses. Although most immigrants are entitled to 300-600 hours of English training upon their arrival, to highly educated professionals the content of a 'generic' ESL class is often not stimulating or fast-paced enough to satisfy their needs. The new language training program (Labour Market Language Program: LMLP), introduced by the federal government in 1992, is meant to address this problem. Hopefully there will be some technically specific English courses available to expedite the transition into the workplace for these immigrant professional engineers. The situation at the moment, however, is that "it is difficult for students to get into full-time language training without paying fees...specialized courses without fees are scarce." (Burnaby, 1992, p.10) Another institution which has established a complex set of barriers is the professional association itself. APEGGA is mandated with the responsibility of protecting the profession and indeed the public through ensuring that safety is a priority. Safety is guaranteed by enforcing strict standards, and examining foreign engineers to determine that they meet those standards. APEGGA does this by having a board of practising engineers assess each candidate individually and then assign them up to nine confirmatory examinations (or up to 26 if they don't have a recognized degree) in order to assess their knowledge.

An informational obstacle is one which prevents information from being communicated either from institution to learner, or learner to institution. "How do immigrants who do not speak either of Canada's official languages discover what language training programs are open to them? They cannot phone a local school or college. They cannot read the newspaper which may feature an article about new programs. They cannot get to know other Canadians who will help them" (Doherty, 1992, p. 68). An example of this type of barrier facing engineers is the lack of information APEGGA provides applicants regarding their in-house services such as translation.

Finally, psycho-social barriers are those "beliefs, values, attitudes or perceptions which inhibit participation in organized learning activities" (Darkenwald & Merriam, 1982, p. 137).

Symbolic Interaction

The purpose of this study is to understand immigrant professional engineers' experience as they enter Canada and attempt to participate in this society. The theory of symbolic interaction was chosen as the theoretical framework within which to conduct this study because of its concentration on the meanings which individuals give to their experiences. A brief description of this theory follows.

> Symbolic interaction is a theory about human behavior....[it] focuses on the meaning of events to people in natural or everyday settings...[It] is concerned with the study of the inner or 'experiential' aspects of human behavior, that is, how people define events or reality and how they act in relation to their beliefs (Chenitz & Swanson, 1986, p. 4).

The theory of symbolic interaction grew out of George Mead's (1934) work on the concept of self. "Mead's contribution to symbolic interaction is his description of the process whereby a sense of self develops" (Chenitz & Swanson, 1986, p. 5). Mead saw children as organisms which develop a concept of self through their interaction with self and others. Mead argued that through role-play, children develop meanings for the objects and people in their world.

Herbert Blumer, elaborating on Mead's work, developed the concept of symbolic interaction (1969). Blumer postulated that individuals develop the ability to see themselves and things and people in their world as 'objects', to which they assign meanings. These meanings are derived from an individual's social interaction with others and then interpreted and modified by the individual. In other words, we make choices about how we interpret the world around us, but we are influenced by others through social interaction (Morrione & Farberman, 1981, p. 276).

As individuals choose to interact with one another, their meanings are developed and altered and possibly shared. When meanings are shared, people behave in a collective manner. They do this by role-taking, or "putting themselves into the role of a given individual by classifying him in a given category and then preparing to act toward him based on [his/her] view of that category" (Morrione & Farberman, 1981, p. 120). Over time, an individual may no longer share the meanings of the group and may choose to join other groups. For example, children share meanings with their parents. As children move into adolescence, the symbols and meanings of their peers often become more attractive, and those of their parents less so. As a result, adolescents may choose to re-align themselves with their peer group.

For new immigrants, the meanings they have developed for their world will be influenced by their culture and their life experience before coming to Canada. As a result, they may find it difficult to locate people within the dominant culture who share their view of the world. They may find that it is only immigrants from their own or similar cultures with whom they are able to develop meaningful relationships. If immigrants are unable to discover or develop shared meanings within their professions, it then becomes very difficult for them to integrate fully into Canadian society.

A researcher investigating a social phenomenon needs to understand that individuals act autonomously, even while belonging to a group. "Although conventional norms provide a framework of expectations that facilitate joint action in routine settings, what happens in each historical context is unique ... each transaction is constructed in a flowing process in which the individual actors adjust to one another through role-taking" (Shibutani, 1988, p.24). Role-taking occurs because each person realizes that every other person within society is also autonomous. This realization forces an individual to see others as objects in order to understand the symbols attached to them. By understanding these symbols, interaction can occur through the sharing of these symbols. For example immigrant professional engineers arriving in Canada will have certain expectations of other professional engineers based on their experience in their own country. Their interaction with Canadian engineers may appear inappropriate or unusual until they are able to attach more appropriate 'roles' to them which can then be shared with their colleagues in Canada.

Certain structures within society limit and constrain individuals, and set parameters around their world, within which they must construct a conceptual framework. As Stryker says: "It is interaction that shapes the self but it is social structure that constrains, and so within limits, shapes interaction" (Stryker, 1988, p. 38). It is important that a researcher identify and attempt to describe those social structures in order to understand their impact on individuals as well as the way in which they limit one's interaction with the world.

Grounded Theory

Grounded theory is a qualitative research methodology, from the interpretative (or hermeneutic) paradigm. It is a method of gathering qualitative data from the natural, everyday world in order to explain basic patterns common in social life (Chenitz & Swanson, 1986).

> Hermeneuticists would argue, humans are not mere physical objects; people are impelled by ideas, knowledge and hopes and desires. They harbor intentions. And these things depend upon the use of symbols as in language,...Human action, ...is a type of text (albeit an unwritten one) - for a text is nothing more than a collection of symbols expressing meaning (Phillips, 1991, p. 554-555).

Traditional experimental research is a deductive process by which a theory is verified or disproved through carefully structured empirical investigation. Grounded theory, on the other hand, is a method whereby theory is inductively developed, based on concepts which emerge from collected data. No assumptions or preconceived 'theories' should be brought to the process, as the concepts are emergent and cannot be forced to 'fit' any pre-existing framework.

A qualitative researcher must have theoretical sensitivity when approaching data. Corbin and Strauss (1990) define this as "the attribute of having insight, the ability to give meaning to data, the capacity to understand, and capability to separate the pertinent from that which isn't" (p. 42). Theoretical sensitivity comes from one's own experience, related literature and the analytic process. It allows the researcher to step back from the data and look at it critically.

Data are collected through a process of what Glaser refers to as 'theoretical sampling' (1978). This refers to the method by which participants are included in the study. The qualitative researcher begins by interviewing one or two participants. Once categories begin to emerge, additional participants are included. These participants are chosen for their ability to either substantiate the emerging categories or to expand them. Once the categories have been saturated, or no new categories are emerging, the interviewing process is complete.

The data are then analyzed and common categories are identified, categorized and coded. From this analysis, the researcher decides what to gather next and from where. More participants are involved and interviewed. Codes are developed, explored and verified through comparison. Information for each category continues to be gathered until saturation occurs, which is the point at which the data contribute no new information. "The occurrence of saturation signals the researcher to transcend the empirical nature of the data and to think more intensively in theoretical terms" (Mott, 1989, p. 53). Grounded theory, therefore, can be "presented either as a well-codified set of propositions or as a running theoretical discussion using conceptual categories" (Glaser & Strauss, 1967, p.33).

The process of interviewing within the qualitative paradigm presents some challenges. It is imperative that interviewers examine their own understanding of the question being asked and be sensitive to their own biases and interpretations which may influence the data.

An interviewer is also in a position of power in the interview situation as he/she is perceived as the 'expert' by the person being interviewed. As Taylor and Bogdan point out:

> In many interview projects the informants are one of society's 'underdogs', powerless by virtue of their economic or social status. Researchers, in contrast, are likely to be secure in their status at universities. For this reason, researchers are in a good position to help them advocate for their rights (1984, p. 10).

In his article on qualitative research, Silverman (1985) discusses the interactionist view of interviewing. He describes the process of interviewing as being "essentially about symbolic interaction" (p. 162). Silverman emphasizes that the context of the production of the interview is "intrinsic to understanding any data that are obtained" (p. 162). The interviewer is viewed as a participant observer by interactionists, and therefore, the meanings (categories) that are attached to the data are a result of the symbols created by the researcher, and not necessarily shared by the participant. For the interactionist, both interviewer and interviewee are participants actively involved in the process.

Kathleen Wilcox (1982), in describing ethnographic research, reflects on the 'process of inquiry' in which the researcher is involved: "An essential part of the research task is discovering what is significant, what makes sense to count, what is important to observe. One is continuously involved in a process of inquiry" (p. 459). With this process in mind, qualitative researchers choose to reject pre-scheduled and standardized interviews. Instead they choose to participate in an open-ended interview, for reasons which include the following:

1. It allows the respondents to use their unique ways of defining the world.
2. It assumes that no fixed sequence of questions is suitable to all respondents.
3. It allows respondents to raise important issues not contained in the schedule (p. 162).

The interview process, however, does demand that the researcher decide which aspects of the phenomenon being discussed will be focused upon. The variables are infinite and it is essential that the researcher set some parameters for the interview before beginning.

Summary

In this chapter, I have reviewed some of the literature relevant to this research, namely immigration policy, access to information, language training policy, professional accreditation information and motivation theory. I have also discussed the literature pertaining to grounded theory research. In the next chapter, I will outline how this research was conducted.

CHAPTER THREE
Methodology

The reality of the immigrant experience in Canada has been documented from many different perspectives. The immigrants' stories have been told in song and dance, through the visual and performing arts, as well as in literature. A significant amount of research has also been done on second language acquisition, cultural adaptation and integration. The many government departments and non-governmental organizations which deal with immigrants on a day-to-day basis have documented the processes used to help newcomers integrate into mainstream society. In most instances, this body of literature has reflected the immigrant population as a homogeneous group of people without looking critically at the individual and the uniqueness of his or her experience.

The purpose of this study is to describe the immigrant experience in the words of immigrants themselves: the unique experience of professional engineers who enter Canada with the intention of practising in their profession. The study will describe the barriers and aids these individuals encounter in attempting to achieve their objective.

Although important material has been written by and about immigrants, very little theory regarding their experience has been developed. This study will use a qualitative methodology which will "facilitate movement from the description of behavior to the explanation of patterns at a conceptual level and thus allow for the generation of theory" (Mott, 1989, p. 48).

For the purposes of this study, grounded theory provides a very appropriate framework. By using the processes of grounded theory, the 'meanings' that immigrant professional engineers attach to their experience of transition into their profession can be identified and categorized. Their experience of interacting with and within the Canadian context can be articulated and analyzed. Finally, concepts can be formed to provide some explanation as to why their experience occurred as it did. From this analysis, then, an emergent theory can be formulated.

Preparation

My six years of personal experience working with immigrants in an educational institution provide me with a fairly good understanding of how to interview and communicate at more than a superficial level with people whose first language is not English. Before beginning the interviews I spent some time reading the literature regarding immigrant policy, labour market reports regarding immigration, and information regarding accreditation into the engineering profession in Alberta. As well, I interviewed both a professor of civil engineering at the University of Alberta and the registrar at the professional association, APEGGA, to gain more insight into the profession itself. Finally, I also spent some time talking with a vocational counsellor at an immigrant aid agency in order to familiarize myself with the types of information available to immigrants during their first year in Canada.

The participants were recruited for the study in a variety of ways. The first two participants to be interviewed, Kirk[4] and Martin, were former students of mine. The next two participants, Frank and Vince, were recommended by two other teachers. Frank had completed his ESL training, Vince was in the last week of his ESL program when I first contacted him. The final two participants, Mike and Allen, were referred to me by APEGGA. They had both been registered as professional engineers in Alberta within the past twelve months. All of these participants shared the following characteristics:

- male
- European origin and/or training.[5]
- resident in Canada less than five years.[6]

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[4] Pseudonyms have been assigned to each participant.

[5] Frank, one of the participants, is an exception, having received his engineering degree in the U.S.A.

[6] One of the six engineers, who has already been accredited, has been resident off and on for ten years.

- recognized professional engineer according to Canadian Immigration policy.
- working age (30-45)

The decision to restrict the sample came from the need to eliminate some aspects of the immigrant experience which may have confounded the data. The engineering culture in Alberta is one which is predominantly male (Robinson & McIlwee, 1991) and native English speaking (97.8%) professionals (APEGGA, 1991). Although there are also many female and/or visible minority immigrant engineers entering Canada, these people experience additional barriers to those experienced by white, male immigrant professional engineers.

The reason for choosing relatively new immigrants was to try and discover participants who were at various stages of transition, yet not completely incorporated into the Canadian mainstream culture. Allen was an exception in that he entered Canada in 1982. I felt that he would still fit into the study however, because he had spent the years 1985-1991 working in the Middle East.

Many immigrants who arrive in Canada have training from vocational or technical institutions which translate into English as *engineering education*. Their skills, however, are not those of a professional engineer, but rather those of a skilled tradesperson. For the purposes of this study, only those immigrants whose academic credentials have been recognized by CEIC as being those of an 'engineer' were interviewed. In addition, it is important to mention that although three of these men, Kirk, Mike and Allen all had completed Masters degrees in Engineering in their countries, the Canadian accreditation board recognizes these degrees as being equivalent in content to a Bachelor of Engineering degree from a Canadian university.

The following table gives a brief description of these six men. A more thorough description of each participant is given at the end of this chapter.

TABLE 3-1
Participant Descriptions

Pseudonym	**Country of origin**	**Age**	**Date of arrival in Canada**	**Engineering field**	**English level**	**Canadian work experience**
Kirk	Poland	33	1990	Electrical Engineering (power)	Advanced	Completing M.Eng at U of A
Martin	Ukraine	36	1989	Civil Engineering (structure)	Advanced	2 years as junior engineer
Frank	Middle East	40	1988	Petrochemical Engineering	Advanced	None in Canada
Vince	Russia	42	1991	Civil Engineering (corrosion)	Beginning	None in Canada
Mike	Czechoslovakia	38	1988	Civil Engineering (water treatment)	Advanced	2 years as junior 1 year as engineer
Allen	Romania	38	1982	Electrical Engineering (computer/ power)	Advanced	8 years as junior, 1 year as engineer

Interviews

I established the following three questions with which to open the first interviews:

1. Describe your professional life in your country of origin.

2. What were your career aspirations for your life in Canada before your arrival here?
3. Describe your experiences in Canada in pursuing your professional goals.

The first participants to be interviewed were Kirk and Martin. Following their initial interviews, I mailed copies of the transcriptions to them for review before our next meeting. I also began to code these transcripts and develop thematic categories. My next interview was with Frank after which I followed the same process. I then interviewed Kirk and Martin again. At this second interview I probed the categories I had developed. The transcriptions of these interviews were sent to the two men as before. I then interviewed Vince for the first and second time within a short period. After each of these interviews the transcripts were coded and categories developed further. I then interviewed Frank for the second time and followed through with transcriptions and coding.

At this point I felt that I needed to interview one or two engineers who had successfully completed the accreditation process. I was referred to Mike and Allen by APEGGA. Both of these men lived out of town, Mike in Calgary, Allen in Fort McMurray. I conducted their interviews by telephone, following the same procedure as I had with the other four participants.

Once I had completed second interviews with the six men and sent their transcripts to them, I again contacted them by telephone. In this final contact with them I ensured that the transcriptions were accurate and discussed any issues they felt needed clarification.

Language

It is important here to mention the subject of language proficiency. The issue of language was one which concerned me before beginning the interviews. I was familiar with only two of the participants before I interviewed them, having taught them in ESL classes the previous year. I knew that their proficiency with the language would allow me to interview them without an interpreter and that they would be able to read and verify the transcripts after each interview. Three of the other four participants were also proficient enough to be interviewed alone and to check over the transcriptions. One of these three, Frank, had been trained in the United States, so I knew his comprehension would be fairly high. The other two had both passed the TOEFL exam with scores over 600 and were working in Canadian engineering firms, so I felt confident that their ability to communicate in English would be sufficient for my purposes. The final participant, Vince, was the most recently arrived in Canada. He was the oldest and least proficient in English. With Vince, I used an interpreter from the Slavic and Eastern European Studies Department who attended both interviews and read the transcriptions.

In the instances where an interpreter was used, she was instructed beforehand on the issue of confidentiality. She was asked to translate both questions and responses directly without interpretation and to translate particularly any paraphrasing that was done by me, Vince or herself. I provided the interpreter with an interview schedule to follow before the second interview, in order to allow her time to formulate the best possible translation. These questions were designed to reflect the topics that were discussed in the other interviews.

Regardless of proficiency, I was never completely convinced that language was not a barrier. I say this because occasionally during the interviews, a question or phrase would have to be paraphrased or explained, both by me or to me. After such an incident I was never sure whether the meaning or intent had changed, either for me or the participant. Also, when we were discussing more personal topics such as family or feelings, I could sense that the participants were struggling to find the appropriate words. These topics are not ones on which new Canadians have the opportunities to develop vocabulary, and therefore I found that their descriptions were sometimes vague or superficial. Fortunately, in subsequent interviews, or when the participants had had the opportunity to see the transcripts, they were able to expand on or re-word some of these passages.

Data Analysis

The procedures of coding, data analysis and concept construction were concurrent and constantly changing. The data which were gathered and the categories which emerged were verified and validated through a method of systematically analyzing data, sentence by sentence, using the constant comparison method (Glaser & Strauss, 1967) until a theory resulted.

The first step in the coding procedure is referred to as 'open coding'. (Corbin and Strauss, 1990). This refers to the "naming and categorization of phenomena through close examination of data" (p. 63). I examined fragments of the data and asked questions about them. From this questioning, 'conceptual labels' emerged to describe these data. Once these initial concepts were developed, they were categorized into groups, which were also given names. Again these names were attached through questioning the data and comparing the concepts to one another in order to generate broader labels. It is important when developing and working with the categories to examine the various properties of each concept. An example from my data is 'job status'. The various properties entailed by job status are: salary, duties, place in hierarchy, education, etc. I looked at the dimensions of each of these properties in order to fully analyze this portion of the data.

The next step in the process is called axial coding "whereby data are put back together in new ways after open coding, by making connections between categories" (Corbin and Strauss, 1990, p. 96). Axial coding is a method of giving precision to a category by defining it very specifically. Each category is specified in terms of "the *context* in which it is embedded, . . . the *strategies* by which it is handled, . . . and the *consequences* of those strategies." (p. 97) The context refers to the conditions which caused the phenomenon as well as the events surrounding it. The strategies are those conditions which influence the phenomenon, either to "facilitate or constrain" (p. 103), for example, time, space, culture, economic status and biography. Finally the consequences are the outcomes of the strategies. They may be actual or potential and may indeed be a step in the context of another category being examined.

To use the example of 'job status' once more:

- examples of *causal conditions* were: education, family, location, employer, or ability.
- the *context* was defined by the work setting, professional relationships, or economy.
- the *strategies* included: personality, motivation, commitment.
- the *consequences* were salary, or level of responsibility.

Axial coding involved examining the relationships between the categories by asking questions about them. Hypothetical statements were then developed which needed to be verified by going back into the data and finding support for them. Occasionally there were instances where the statements could not be verified, which added a new depth of understanding of the data. This process of developing statements and checking them has been described as moving between deductive and inductive thinking (Corbin & Strauss, 1990).

The final coding procedure used in grounded theory is referred to as 'selective coding'. This is the process whereby the researcher integrates the categories to form a grounded theory (Corbin & Strauss, 1990).

The first step was to explicate the story line. This involved re-examining the categories (now called sub-categories) from the axial coding and attaching a conceptual label which defined them. This label described all of the sub-categories and their inter-relationships and is referred to as the 'core category'. The next step was to relate the sub-categories to the core category and manipulate their inter-relationships until an analytical version of the story was developed (Corbin & Strauss, 1990, p. 127). This process is similar to axial coding, the use of questions and comparison, looking both for shared and contrasting meanings and the grouping and re-grouping of the sub-categories. The properties of the sub-categories were thoroughly analyzed once more and identified with all their dimensions, and these properties related to other sub-categories. The data were thus related not only at the broad conceptual level, but also at the specific levels for each major category. What resulted was the emergent theory.

The final step was to look at the theory and create statements which would 'test' or validate it and then check them against the data. From this a number of valid statements appeared which became the 'story line' or theory, emerging from and grounded in the data.

Computer Coding

The computer was an invaluable tool during the data analysis phase of this research. I will briefly describe here the method I developed for sorting categories on the computer.

After the initial interviews were transcribed and printed with line numbers showing, chosen fragments of text were copied and pasted into a table. Codes were assigned and placed in the column opposite the relevant fragment. Each code was identified by the participant's initial and line number. For example:

lack of information **M399-404**
independence and responsibility **F14**
lack of choice in career path **F59-62**
lack of confidence - self-esteem **V306-307**
accepting advice **V240-241**

Once the initial interviews were coded, I copied and pasted all of the codes into another file and sorted them alphabetically using the SORT utility:

accepting advice **V240-241**
independence and responsibility **F14**
lack of choice in career path **F59-62**
lack of confidence - self-esteem **V306-307**
lack of information **M399-404**

This allowed me to look at the codes critically in order to find similarities. I then clustered similar ones, (after comparing the text fragments to ensure this was appropriate) and assigned new codes to these collapsed categories. This renaming was done using the CHANGE utility. For example:

FIND WHAT: lack of choice in career path
CHANGE TO: lack of choice
FIND WHAT: lack of information
CHANGE TO: lack of choice

As subsequent transcriptions were coded, I continued this process of coding, comparing and collapsing categories. After all of the interviews were done, I pasted all of the codes together into a file and sorted them alphabetically using the SORT utility.

The next step, axial coding, was done in exactly the same way. From this long list of codes (over 900) I used the constant comparison method to develop fourteen categories in which to collapse all of the codes. Using the CHANGE utility I changed the code names of each item on the list. For example, the above five codes became:

lack of control **V240-241**
lack of control **F14**
lack of control **M399-404**
lack of control **F59-62**
lack of control **V306-307**

The next step was to sort this new list using the SORT utility. This resulted in a new list grouped by category, with each participant's portion together and in order by line number:

lack of control **F14**
lack of control **F59-62**
lack of control **M399-404**
lack of control **V240-241**
lack of control **V306-307**

I used this list as a guide to the printed transcripts in order to find relevant portions of text with which to validate my final core category.

Ethical Considerations

At the initial interview, participants were assured of the absolute confidentiality of the process and ensuing data. They were given the option of withdrawing from the research at any time. At the conclusion of the study, the results of this research will be made available to them in an executive summary.

Participant Descriptions

Before moving into a description of the findings of this research, it is important to introduce the six men who were interviewed. An understanding of their life experiences and histories, however brief, will give the reader important background information when faced with the data analysis which follows this chapter.

The men I interviewed shared a number of characteristics. The five men who were married with children were all devoted to their families and worked hard to provide for them. Their family's needs and concerns were always uppermost in their minds. Four of the six men had wives who were also professionals, three of those were engineers. All of these men mentioned the fact that they needed to allow their wives the time to become accredited in their fields as well, and felt responsible for ensuring that this would happen.

All six were very personable, confident men who were easy to talk to. They were eager to share their stories and answered my questions openly and as honestly as they could. Three of the men talked about their need for exercise, and indeed, were in very good physical shape. They carried themselves well and appeared very confident. Five of the men had held positions of some authority in their work, and the sixth, a student, had achieved academic and athletic success throughout his university career. All six were proud of their accomplishments and made it clear that they felt that it was their own hard work and perseverance that had led to their personal successes.

Kirk

Kirk was a student of mine in a full-time English program in the fall of 1990. I had been in contact with him a couple of times since then. He had always impressed me as a very straightforward earnest man who had the determination to achieve anything that he set out to do. A year ago I ran into Kirk walking towards the university and discovered that he was enrolled in the Master's program in Electrical Engineering. It was this discussion with Kirk which was the impetus for this research.

Kirk went directly from 13 years of public school in Poland into the engineering faculty at the university in his home town. He was an excellent student and was awarded a scholarship for university. He was also awarded an athletic scholarship and was the captain of the men's handball team throughout his university career. These two scholarships combined allowed Kirk a life of considerable comfort while he was attending university. He maintained an excellent average during his bachelor's degree and was encouraged to enter the Master's program immediately after graduation. He was told that he would ultimately be given a teaching position if he continued on to the Ph.D. level.

Kirk however, was very frustrated by the communist system. He felt constrained in his work and his life and yearned for a more democratic environment. He planned his escape. He had hoped to leave before starting university, but the borders were not open to anyone until 1985. By then he was already in the Master's program, and so decided to finish his degree before leaving Poland. At that time he was able to apply for a tourist visa to go to Greece. In June of 1987, one month after graduating with a M.Eng., he left for Greece. He was 26 years old. That same month he received orders to enter the army in January, 1988. He laughs when he tells the story, because he already had his passport when he was sent his orders, which was very unusual. Generally, if an individual was to be drafted, there was no possibility of foreign travel until the term in the armed forces was completed.

Kirk spent 35 months in Greece as a refugee. Although it was illegal to work, most immigrants found odd jobs. Kirk worked as an electrician doing contract work for construction firms. He learned quite a bit about the practical side of electrical work during this time and doesn't regret the experience at all. In January of 1990, Kirk had an interview with the Canadian embassy to apply for landed immigrant status. He was accepted immediately and was able to come to Edmonton in June 1990. At that time he knew very little English. He spent his first six months studying

English, first in a part-time program and then in an intensive full-time program.

From the beginning, Kirk knew that he would probably have to return to university in Canada to be able to work in his field. His documents had been assessed as only a bachelor's degree by the university here, and he was unwilling to give up his M.Eng. status. He had approached APEGGA and after learning about the examination process, he decided it would be in his best interests to go to university to obtain his M.Eng. As a single man, he could afford to spend a few years getting the education and experience he required.

Kirk spent the six months after completing the formal ESL program studying English on his own. He had to write the TOEFL test twice; the second time he received 570. The University of Alberta, Faculty of Engineering requires a 580 score, but they let him into the Master's program in January 1992 on the condition that he would re-write the TOEFL test before December of 1992 (which he has done with a score of 613).

Kirk will complete his course work in April 1993 and hopes to be almost completed his Master's project as well. He is very short of money, having gone through all of his savings from Greece and living now on a very small amount from the student finance board. The hardships of this poverty are somewhat discouraging. He has practically no discretionary income. However, he has a number of friends within the Polish community whom he visits on the weekends. When I spoke with him one day, he was off to go fishing with a friend. Another day, however, he was feeling quite disheartened because he had wanted to buy a book for a course, and did not have the money to do so.

He is anxious to buy a computer as soon as possible, because it is often difficult to get on to the university computers in order to do course work. He is unwilling to work part-time because the coursework is very difficult for him because of the language, and requires a great deal of time. He is very tired, but is pleased that he has gotten this far in only two years.

Allen

I spoke to Allen by telephone at his office in Fort McMurray. I had had a difficult time reaching him after I received his name from APEGGA. I had been told by APEGGA that he was an unusual case because his file had taken almost 10 years to process. I was interested to know what he had done during that time. We, therefore, concentrated mostly on his time since his arrival in Canada.

Allen arrived in Calgary in 1982 with his teenaged son, leaving his wife behind in Romania until Allen could obtain the proper documents for her to join him here. Allen had completed six years of university in Romania and had received the equivalent of a Master's in Electrical Engineering. He had worked from 1969-1979 as an engineer for the government. He escaped to Switzerland in 1979 and worked there until 1981 for an engineering servicing company. As a result of his travels, Allen speaks five languages: Romanian, Russian, French, German and some English.

The first thing that Allen did when he arrived in Calgary was to contact APEGGA. He had obtained information about the organization from a counsellor at Canada Immigration. He says that his lack of English was a hindrance then, and he made mistakes filling out the APEGGA application forms. APEGGA required an official copy of his transcripts from his university. This was a problem, because it was very difficult to have any official documentation sent from Romania. Even Allen's wife was unable to obtain his transcripts for him. He contacted the Romanian embassy in Ottawa for help. A sympathetic official there was able to cut through some red tape and managed to have the necessary documents sent. This process took three months.

While waiting for the documents, Allen took a full-time ESL course at a vocational college in Calgary. After three months, APEGGA told him that he would need to upgrade his knowledge of the Canadian electrical codes. He enrolled in and passed three night courses at SAIT and received certificates for them. Allen realized during this time that he would need to become familiar with computers if he wanted to work in his field. He asked a friend to teach him the basics. Once he had mastered word processing, he spent two evenings a week at the University of Calgary computer lab teaching himself the electrical engineering programs he felt would be required of him in the workplace.

When he had completed the ESL program, Allen started to look for a job. He was hired by a German company as a technician. This company manufactured machinery for the oil industry. He worked there for nine months. During these nine months, Allen also wrote and passed the TOEFL test with the required 600 score for APEGGA.

In 1983, following the downturn in the oil industry, friends suggested that he go to Toronto to look for work. He left his son with friends in Calgary, and traveled to Toronto with $50.00 in his pocket. Ironically, the job he found in Toronto took him to B.C. He spent the next two years in Dawson Creek as a project manager on a power station for a new mine.

In 1985 his job was completed, so once again he was forced to look for work. By this time his wife was in Calgary living with his son, who was studying engineering at the University of Calgary. His wife was preparing for the APEGGA exams herself at this time. She passed her exams in 1988 and is now working as a research engineer, which was her area of expertise in Romania. Allen saw an ad for a Middle East oil company looking for engineers to travel to the Middle East. He had a successful interview and soon found himself in Libya. His work schedule was 58 days in the field, 58 days off. During his time off, Allen set up a consulting firm in Turkey. From there he travelled to Russia as a consultant in the oil industry. During the six years he worked for this company, Allen's family stayed in Canada.

In 1991, while visiting his family in Calgary, Allen met an executive from a major Alberta oil company. This man encouraged Allen to apply for a new position. Allen did, and was given the job, where he was currently employed. He is responsible for four other engineers and eight technicians.

Back in Alberta again, Allen wanted to obtain professional engineer status. He contacted APEGGA in 1991 and was pleased to learn that his file was still intact. He would be required to write the professional practise exams and provide references for his years of experience in Canada. It took nine months to complete the process, but Allen was finally registered with APEGGA in 1992.

Frank

Frank was the odd man out in this group of engineers, as he was not from an Eastern European country. He was included in the study because he represented an experience which was unique and it was interesting to compare his experience with the others to see if he perceived his choices and experiences as being different as a result of his being from the Middle East.

When Frank decided to become an engineer, he applied to study in the United States. His country and a large American oil company shared his expenses and sponsored his study in Texas. He spent four years in the U.S.A., the first four months of which was spent studying English in Boston. He graduated with a Bachelor's degree in Petroleum Production Engineering from the University of Texas. He then returned to his country to work for the American oil company. He also continued studying at a university there towards a mathematics degree. During his time off, he worked for a professor at the university as a volunteer research assistant.

Frank had considerable responsibility in his job; he often traveled to other oil-producing countries. Because of his facility with English he was sometimes sent to England and North America on business. During one of those visits, in 1987, he came to Alberta to look at the petrochemical industry here.

In 1988, Frank's government decided they needed his expertise and drafted him into the army. He was scheduled to be sent to a base in Yugoslavia. Frank was 36 years old then and had a wife and two children. He did not want to leave them to go into the army for an indefinite period. He knew, however, that to defy the order would mean a long prison sentence. His only choice was to escape. He got his papers in order and took a plane to Yugoslavia with a stopover in Greece to visit his sister. Once in Greece, he phoned his wife and told her to fly to Rome, where he met her and the children a few days later. Together they went to the

Canadian embassy and applied for a visitor's visa. Frank suspected that if he applied for immigration, he would be sent back to his country.

Once in Canada, Frank took his family directly to Alberta, where he immediately applied for refugee status. Because of his desertion from the army, his claim was considered legitimate and his file was sent for review to the refugee board. In the meantime Frank was told that although he was obviously highly qualified in his field, he should be prepared to take anything that came along, that Canada operates in a free market economy, and he would have to earn his own way. Frank understood this and quickly obtained work with a temporary labour company where he did odd jobs, from paper shredding to janitorial work to dishwashing.

Although forced to work in menial jobs to support his family, Frank did not abandon his goal of working again in his field. During his first years here in Edmonton, Frank had a résumé written and printed with the help of some friends and sent copies to a number of engineering firms throughout Alberta. He also visited some of the refineries in Edmonton and made contact with some Canadian engineers he had worked with in his country. He also took some upgrading courses in petroleum production in Nisku, in order to learn the terminology and catch up on new technology in the field.

Unfortunately, none of these endeavors was successful. Frank heard the same story everywhere -- that the economy was very poor, Canadian engineers weren't getting work, there were no jobs to be had. Some friends suggested Frank go to university to do a Master's degree, but he felt he couldn't afford to, now that he had a third child. Frank also approached APEGGA to get information about registering as a professional, but was discouraged by the length of time and expense of the process.

Frank applied to take a full-time English course. He felt that his English was getting rusty because he was not able to use it. He was accepted into a full-time ESL program in the fall of 1991. After completing 20 weeks of English he was without a job and applied for unemployment insurance. His employment counsellor suggested he go to a job-finding club at an immigration agency.

At the job-finding club, Frank met a gentlemen who advised him to start his own business. This man assisted Frank in developing a business brochure, and applying for incorporation as a registered company. Frank has done this and is now waiting for his Canadian citizenship papers in order to begin doing business. He would like to work as a 'middleman' for companies in Canada selling parts and labour to oil companies in the Middle East. He is convinced that his knowledge and experience of Middle Eastern business will provide him with the right qualifications to start a successful venture. He has begun to make some enquiries surrounding his ideas, and there seems to be some interest from within the oil industry.

At this point, Frank has no interest in becoming registered as an engineer in Alberta and working for an established firm here. He is convinced that even if he were to become registered, he would be unable to obtain work here because of the poor economy. He is confident that he will be able to provide himself with a good income once he has a Canadian passport.

Martin

I first met Martin when he was a student of mine in an ESL class. Because we are both Jewish and saw each other at the Jewish Community Centre in Edmonton, we had the opportunity to develop a friendship. I taught Martin for ten weeks and was impressed at how diligently he applied himself to his studies.

Martin was educated as an engineer in the Ukraine. After graduating from five years of technical high school, he entered Kiev university where he studied civil engineering for four and a half years. He graduated in the top 5% of his class of 150 civil engineers. As a Jew, he was lucky to be able to study in the career of his choice, as there was a quota system in place and even the brightest Jewish students from the high schools were allowed to fill only four per cent of the seats in the professional schools.

After graduating, Martin was able to have his choice of positions. Available jobs were granted according to the academic standing of the students, and those at the top of the class were given the best positions.

For the next six months Martin worked in a structural organization where, as a foreman, he was responsible for 10 people.

After 18 months, Martin was drafted into the Soviet army. Because of his training, he was sent to a precast factory where again he worked as a foreman. He says that the 18 months he spent in the army provided him with very valuable experience in his field.

Once finished his army service, Martin was again able to choose a position. This time he began work for a research institute as an engineer. In this job, Martin was responsible not only for design, but for drafting as well.

After three years, Martin began to think about leaving his country. He and his mother had visited his uncle in Canada in 1987 and they were impressed with the opportunities here. While visiting Edmonton, he had spoken to an engineer and had visited an engineering firm. When he returned to his place of work, his boss told him that he was being considered for a promotion to manager. At this time Martin told him about his plans. Martin knew that this could be the last promotion he might get, as Jews were seldom promoted to any of the higher positions of authority within the Soviet system.

In 1987 when Martin returned to the Soviet Union, changes were being made in the emigration policy to allow Jews to emigrate to Israel. Application to emigrate to Israel was the only legitimate way of leaving the Soviet Union for Jewish citizens. So Martin, his mother, his wife and daughter applied for exit visas. By this time it was January 1989. They received their passports four months later and immediately left for Austria. Austria is a central processing point for Eastern European refugees. Jews leaving the Soviet Union can apply in Vienna to enter other countries besides Israel which are accepting refugees. In Austria Martin and his family applied to an international Jewish organization and received permission to apply to Canada. From Vienna they traveled to Rome where they waited for the Canadian embassy to process their papers.

While in Italy, Martin worked in a pizzaria where he washed dishes. He also began to study English on his own in the evening. Six and a half months later, in August, 1989, they received their papers and flew to Edmonton.

Once in Edmonton Martin and his family were supported by the Jewish community. In January 1991, two years after leaving his country, Martin was enrolled in a full-time language program to study English. Because of his self-study in Italy, Martin was placed in a high level class, where I first met him. His wife was in a class in the level just below. His daughter was enrolled in the Jewish day school in Edmonton.

Near the end of his 20 weeks of English, Martin felt the pressure to start working to support his family. He saw an advertisement at the Canada Employment Centre for a government subsidized position in a German construction firm. The job was for only six months. At the end of that time, Martin's boss found him another position with a small engineering firm, where he worked for two years as a junior engineer and draftsperson. While working for this firm, Mark began the process of becoming registered with APEGGA. His first task was to get his documents translated and assessed. He did this by sending them to a service in Toronto which was recommended by some friends in the Russian community. The engineers he worked for told him that after two years of experience he would need only write the professional practice exams and pass the TOEFL. During his second year with this firm, Martin successfully challenged the professional practise exam.

While waiting for further information from APEGGA, Martin was forced to change jobs again in January of 1992. There was not enough work for him with the small firm. Fortunately, his co-workers found him a contract position as a draftsperson at a structural fabrication company in Edmonton. After two weeks there, the manager offered him a full-time position. In April he received a letter from APEGGA which stated that his academic credentials had been assessed and he would be required to write ten additional confirmatory examinations. Upset by this news, Martin went to see the registrar at APEGGA. He was told then that the Soviet educational system was not well enough known to grant him a license without the exam results.

Martin is discouraged and feels that he has no more time to spend studying for exams. He is 36 years old and would like to spend more time with his family. At this point, Martin has decided to give up on the registration process and continue with his current job. In addition, he feels that it is his responsibility to support the family in order that his wife may return to university to upgrade her qualifications as an accountant.

Mike

I was given Mike's name by APEGGA as a recent registrant and spoke to him twice on the phone from Calgary. Mike is a 38 year old man, married, with two daughters. He was very polite and altogether spent over two hours speaking with me as well as checking over his transcripts and sending me corrections and notes.

Mike has the equivalent of a civil engineering degree with a specialty in municipal engineering. His expertise is in waste water treatment and storage and the transportation of water. After his graduation in 1978, Mike worked as a civil engineer for ten years in a coal mining town where he also did contract work on the side for a variety of firms and municipalities.

Prior to their escape from their country, Mike and his wife were becoming increasingly concerned with both the air and water pollution where they lived. One of their two daughters had developed a severe skin disease which was exacerbated by the pollution being poured into the air and water by the industries in their area. It was this unhealthy environment combined with the constraints of working and living in a communist system that prompted Mike and his wife to plan their escape.

Mike and his wife began not only to complain about the environment to their friends and neighbours, but to ask questions about Canada and other countries. Their friends soon warned them to be quiet. The secret police were everywhere and it was possible to be imprisoned for criticizing the country or asking about other countries. They applied for and obtained a tourist visa for a holiday in Yugoslavia. They took their car and only the luggage that would be appropriate for such a holiday. They had to leave all of their documents behind in their apartment, knowing that they would be confiscated by the police when they didn't return. Fortunately, Mike's father went to the apartment before the police, suspecting that they were not returning, and was able to send both Mike's and his wife's school documents and diplomas to them in Canada.

In Yugoslavia, Mike applied to three embassies for transit visas: Italy, West Germany and Austria. A transit visa would enable him to travel within those countries and give him the opportunity to apply for refugee status. Only Austria would grant him one, so he headed for Vienna. Once inside the border he asked for refugee status and was sent to an immigration documentation camp where he stayed for nine months. During those nine months Mike was able to work in construction which provided the extra money to buy milk and cheese for his children.

During those nine months, Mike tried to find out as much as he could about Canada. He listened to the talk in the pubs and on the street. He read magazines and labour market reports. Rumours abounded. He was assured that he would not work in his profession because Canada did not recognize credentials from European countries. He was not deterred by this. He felt that it was enough that he could live in a healthy environment and raise his children in a free and democratic country.

Mike had an interview with the Canadian embassy in the winter of 1988 and received landed immigrant status as a refugee claimant. He was sent to Prince George, B.C. at first, but as soon as Mike discovered there was a pulp mill there, he relocated his family to Calgary, arriving in March 1988. Within six weeks Mike and his wife were enrolled in a full-time ESL program.

Mike was not content to study English only; he wanted to work as well. He obtained a job with a golf course as the water maintenance man. He continued to study at night during the summer and fall. In the late fall of 1988, Mike obtained a job as a draftsperson in an engineering firm in Calgary. Once his wife finished her ESL program they began to investigate the possibility of becoming registered as professional engineers.

They applied to APEGGA in the spring of 1989. The process of application took until January 1990 when they were told that they would have to write three confirmatory exams in November 1990. They would have to write all three exams within one week. They were given a list of books to study from. Mike described the next nine months:

> We spent in such a way that we came from work, ate, played with kids for hour or hour and half outside and after that studied till 12:00. Including Saturday and Sunday. We didn't go to visit friends or anything.

Both Mike and his wife passed their exams and were then required to write the professional practise exam as well as the TOEFL. They wrote the professional practice exam in the spring of 1991. Mike's wife passed the TOEFL in the summer of 1991 and received her accreditation, Mike wrote it but failed in the fall of 1991, then rewrote it again in the summer of 1992 and passed with the required score. He continues to work as an engineer for the same company in Calgary, and is pleased that he has been successful in the pursuit of his goals.

Vince

I arranged for an interview with Vince through the teacher of his English as a Second Language class. His teacher wanted to make sure the arrangements would be understood correctly, because Vince's English proficiency was not very high.

I arranged for an interpreter to come to the interview. She was a student in the Slavic and East European Studies Department at the University of Alberta. She had never met Vince before, nor did she have any background in engineering. She was also on a student visa, not a here as an immigrant, so she had no knowledge or bias in either of those areas. She was not ethnically Russian, but Ukrainian, though she has spoken Russian since entering school at age five.

Vince is a man of 42 years, married with three children: a 16 year old son and twin 13 year old daughters. His wife has identical training to Vince, a combined degree in economics and structural engineering. Vince's specialization within his field is in anti-corrosion studies, particularly for pipeline and power lines.

Vince trained as an engineer at the university in his home town. He had completed technical training in his last four years of high school and then had gone directly to work for the Ministry of Energy. While working, he had put himself through university evening courses and graduated as a civil engineer in 1977. Upon graduation, Vince was promoted to a supervisory position where he was responsible for a number of other workers.

During the 20 years that Vince worked for the Ministry he was sent to several power stations around his country, primarily to isolated areas in the north. He was responsible for supervising the building of new power stations. As supervisor, he was not only responsible for the physical construction, but for the well-being of his workers as well. This meant that he was responsible for arranging housing and childcare and often acted as a personal counsellor.

As an important employee of the Ministry, Vince was obliged to become a member of the Communist Party. Without membership in the Party, such positions as he held would not have been available to him.

In 1987, Vince was sent by his Ministry to Cuba in order to oversee the building of some new power stations. When he was first posted there, Vince was told that he would not be able to take one of his two twin daughters with him. This was a common method of his government to ensure that workers would return once their duties were finished. Before leaving Russia, Vince arranged with a doctor to verify that his mother was too ill to care for his second daughter. As a result, the daughter was sent to Cuba three months later to join her parents and siblings.

In August of 1990, Vince had a disagreement with some Party members at his place of employment and chose to withdraw his membership from the Party. This was obviously a very serious step to take, for within six months, his contract was terminated and he was asked to return to his country. The Cuban officials wanted him to stay and requested that he do so, but the government would not allow it. Vince was told that he would not be returned to his former position when he returned, but was not given any further information regarding his future.

It was at this point that Vince and his family decided that they would emigrate to the West. It was a difficult decision, because all of their family was back home as well as those possessions they had not brought with them to Cuba.

To prepare for their leaving, Vince and his wife began to study English at a school in Cuba. Immediately, his motives for doing so were questioned by his superiors, and he quit the classes and began to study Spanish, in order not to arouse further suspicions. His wife continued to study English, as she was not working at the time.

The only possibility for escape was during their flight back to their country in July 1991. They walked off their plane with only their coats in Gander, Newfoundland and were granted amnesty by the immigration officials there[7]. Their luggage, containing all of their documents, educational certification and clothes went on to their country, and disappeared.

Vince and his family stayed in Gander for 20 days, then St. John's for nine months, until April 1992. During this time, they were in Canada on a ministerial permit while their claim for refugee status was being decided in Ottawa. Vince said that refugee claimants were not allowed to work in Newfoundland and apparently, were not eligible for government-funded English classes. Their living expenses are paid for by the government through Canada Immigration.

Vince described the immigrant aid services in Newfoundland as being primarily organized by churches. Vince and his wife attended volunteer run English classes at an Anglican church in St. John's. In return, Vince did odd jobs for the minister of the church. Gander airport is a very popular jump-off point for Russians wishing to leave their country. The large Russian community in St. John's is in constant transition as up to fifty new asylum-seekers arrive daily and others move west into the rest of Canada.

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[7] The Russian government is no longer landing planes in Gander so this port of entry for Russian refugees is no longer available.

In April 1992, Vince decided to move west because he had heard that Alberta was a good place for immigrants to live. He came two weeks ahead of his family and arranged for an apartment. During this time, he visited Canada Place and arranged for his funding to be transferred to Edmonton. He was also told at this time that he and his wife would be eligible for full-time ESL classes which would begin in June 1992.

When I first interviewed Vince in late October 1992, his family had received their landed immigrant status just that week . The following week he was due to finish his English course. The new status meant that he could apply for work when he had completed the course. He was feeling very anxious about finding work quickly, because he was very unhappy about living on government support for such a long time.

When I interviewed Vince two weeks later in his apartment, he was feeling much more relaxed about his situation. He had been to see a counsellor and had been told that he might be able to take further ESL classes. He was still looking for a job, but it was a difficult time to find work. At this time he talked of the future more positively. He was not sure he would be able to work in his field, but would continue to investigate possible avenues towards achieving that goal.

CHAPTER FOUR
Results

Common Themes

Through comparing the words and experiences of the different participants in the study, fourteen categories emerged. In this chapter I will discuss each of these fourteen categories, identifying the similarities and differences. Although there is no definitive order to these categories, either chronological or thematic, they are assembled here in the order which seemed appropriate for this discussion:

- personal belief system
- preparing for the future
- motivation
- gathering and using information
- language
- status
- job entry
- support systems
- lack of control
- taking control
- professional achievements
- time
- reflection

Personal Belief System

Most of what the participants said about their past was absorbed into other categories. One theme emerged, however, which seemed to stand alone: the restrictions placed on individuals in the Soviet bloc countries. These restrictions on personal freedoms that we take for granted were felt by these men in different ways. Martin was faced with the restrictions his Jewish heritage placed on him at each phase of his career. Being a Jew, Martin's name was easily identified as non-ethnic Russian. The ethnic Russians were given privileges that were withheld from other citizens, such as travel permits, promotions, housing, etc.

> It's not a secret. Um, school had,...there is, was restriction, for example four Jews for one hundred fifty.
>
> (when asked whether he had had a chance of being promoted to a high level position) I don't think so because I am Jew - that's the first big question...No doubt that I have some ceiling.

Vince, the other Russian in this study, who is of German heritage, described his solution to this problem:

> Sometimes in Russia, people have heritage problems. My family name I took from my mother, not my father because I wanted to avoid some problems.

The lack of freedom within their profession was another problem that prompted all six men to leave their families, jobs, and stability behind to come to Canada and an unknown future.

> We were getting more and more upset the longer we were working in the process under communist rule. And I saw a lot of engineers doing a better [more senior position] job than I was. [Mike]
>
> It was demanding me, my company was waiting. They want me, the government, they want to send me from work and send me to military and this is not even for my age, 40. They want to send me to Yugoslavia for this training in academic. [Frank]
>
> When we were in Cuba we decided to take some English courses there and we began to go to courses and some people began to ask us 'Why did you decide to learn English?' For that reason I dropped out of that school...I was afraid that some extra attention will be paid to me or my family. [Vince]
>
> After university, [before you work] you go in the army...there's a prohibition of up to five years after leaving the army -- you're prohibited to go abroad. [Kirk]

Most of the participants were clearly happy to leave such a restrictive system behind. Some of the communist philosophy they had grown up with, however, remained with them. Vince, who was the most recent arrival of the six, was clearly still convinced that the government should shoulder the responsibility of 'taking care' of its citizens. The idea of private companies having the right to sell resources such as water and natural gas was unbelievable.

> In Canada too, I think there are no power companies...it's impossible to have private power companies in Russian because it shall take a lot resources, money - it should be government controlled. [Vince]
>
> Maybe it would be better if government build new construction, new plants in the north territories...when new arrived professional immigrants come to Canada - government may propose to them to choose any place in north territories for five to seven years to work there to develop these territories. [Vince]

Martin, Mike and Allen, on the other hand, had been in Canada long enough to understand the capitalist system. They could see how their fellow countrymen suffered because of their learned dependence on the government.

> Back in Europe, and throughout whole Eastern bloc, you don't have responsibility like here. ..you are independent here, you have to stand behind your work. [Mike]
>
> I know guys who started working with my wife's company and they were engineer back in the old country and they just wanted to start doing immediately engineering work and it simply doesn't work that way. You have to show that you can do something first before you get paid. [Mike]
>
> Well in Eastern Europe there is a lot of bribery and this kind of stuff. People are used to go through system in different way -- to go up in system through acquaintances not hard work. And this guy who I contacted [in Calgary] said 'You have to work'. For some people this is not support -- for some it is the exact

> opposite. They are looking for friends from original countries and asking 'How can I do that without any work?' [Allen]
>
> I appreciate Canada -- you know there are lots of people who say in Canadian no good because in Russia everyone think everything drop from sky. And you can, everyone give you everything and you don't try to do anything. But it's a country not correct. And if people came with this mentality in their heads so it's so difficult to change -- that these people start upset everything. But I know I had correct mentality about Canada. [Martin]

There was one thing that the participants agreed was good about the communist system: that the Soviet educational system is superior to Canada's.

> To pass a course in the gymnasium - high school - you have to know many things. Not how to cook or how to buy something for your house. Not this way. You have to know why and how of everything. ....you say you have here test and they are very small - you need small part of material to answer the question. Not there. So reviewing almost all - everything. [Kirk]
>
> I think education in Russia is very good, that's my opinion. Because its foundation system and lots of directions....and especially school program. It's more harder than here. [Martin]

During their process of integration, these engineers first began to understand some of the modernist ideals of the western labour market (i.e. hard work equals success) and then adopt them as their own. This gradual adoption of new beliefs seemed to be crucial in the adaptation process.

Preparing for the Future

It was important to hear the participants describe their reasons for leaving their countries and the critical events that forced the decision upon them. How they responded to such critical events foretold something about how they would later react to their situation in Canada.

> [Before leaving Poland] I have those plans. If I decide to go I'm looking for the easiest way to get there. And even if it's hard to do this because you have to live -- you have to support yourself -- I'm going straight and not looking back or left or right side. [Kirk]

Overall, it seemed that these were men who set goals for themselves and then set about finding a way to achieve them. Once they made a decision, they carried it through to the best of their ability. If obstacles were placed in their way, they tried to overcome them. Despite growing up in an environment which discouraged independent thinking or action, they had made plans to defy the restrictions placed on them in order to have a chance at freedom.

> Cuba officials wanted me to continue my job, but our officials, I mean Soviet officials, they don't want it. Because I quit my membership. And after that I would return to Russia through Canada - I had lots of talk with my family. We wanted to decide our future. [Vince]

Once in Canada, having achieved the initial goal of freedom, these six men were faced with a future that was completely unknown. Of the six, only Martin had a relative here. The others were alone except for their wives and children. Kirk was completely alone. They did not become discouraged, however, but immediately began to make plans for the future.

The strategy that these six shared when talking about their plans, was that they all had a 'main' plan and then had contingency plans as well, or alternatives that were related to their primary goal. It seemed to be a survival technique that helped them cope with the disappointments that they faced quite regularly.

> So I studied English during this golf course stuff [job] and I just planned for winter when I supposed I would be laid off for winter. So I just wanted to get better job during that time

> because I would be on unemployment and I would be able to look for job. [Mike]
>
> Maybe there will be some moment next year -- don't be so busy -- so I can take computer there is no doubt because I like if I have a computer and design experience and everything -- who knows -- [Martin]
>
> When I get my citizenship I go as consultant first -- if my consulting is goes good, then I stay as a consultant. If not, then I just employ and work there. [Frank]

Motivation

From the time these participants arrived in Canada, everything they planned and did was motivated by a desire to achieve professional success. All six men had come from jobs where they had held some responsibility and status. They were not content to live their lives in Canada without at least attempting to regain some of that status, and within their own profession if possible. Each step they took, each choice they made was calculated to realize this goal.

I asked each of them why they had chosen to come to Edmonton:

> Because I know Alberta is involved in oil. Toronto maybe if I were chemical or mechanical. But since my business is in oil, I said the best place is Alberta. [Frank]
>
> The reason is that Alberta is the oil place. It was the first reason to move there. [Vince]

Once in Alberta, the men chose similar routes to achieve professional satisfaction. For all but Kirk, the student, the needs of their families dictated the path they chose. They needed to work as soon as possible in order to support their families. They realized that it was important for them to find work in related fields that would provide them with contacts. Although all of them were forced to take more menial jobs in the beginning, none of these five were willing to stay long in those positions. They changed jobs as opportunities arose. As a result, four of the five are now employed either as engineers or in related occupations. Martin, though working as a draftsperson, continues to look for an engineering position:

> But honestly, another thing. This company, where I'm working right now I think - I know for sure this company doesn't need professional engineer - cause this company should pay more money and this company doesn't have different kind of work ... I should find something - I should start to find something -- I should find some company which need me, professional engineer. [Martin]

Vince, who is just beginning, is optimistic about his chances:

> I hope to find a job according to my qualifications. I don't think that it will be difficult to change my qualifications into a new way. [Vince]

Finally, all six of the men saw some sort of further education as one way to get where they wanted to be. Whether it was full-time study, part-time courses or learning on their own, they realized that there were things about their profession in Canada which they needed to learn.

> ...but it was a setback in my opinion because I already had master's and after entering that program [APEGGA exams] and passing some exams, they could recognize me as just a bachelor's. So I said no way. I get my Master's here. [Kirk]

> I learned the computer in Calgary by going to a friend's office in the evenings and teaching myself -- I started with word processing and learned engineering programs. I also went to the University of Calgary two to three times a week to practise on computers. [Allen]

> I took three courses at SAIT to know Canadian codes and got certificates for each. [Allen]

> You have to have a goal. And you have to really go for it. And I don't know -- this year we spent in such a way that we came from work, ate, played with kids for hour or hour and half

> outside and after that studied till 12:00. Including Saturday and Sunday. We didn't go to visit friends or anything. [Mike]

Gathering and Using Information

This category proved to be one of the most often coded within the data. Three broad 'themes' emerged within this category: 1) information barriers in the original country; 2) gathering information you can trust and acting upon it; and finally 3) discarding information you can't trust.

> Other Czechs. Magazines about these countries. Different economic comparisons. Naturally there was something written about policies of these countries. About living standards of these countries and about social programs. So all these things were important so it was kind of -- but being behind iron curtain we were slightly puzzled and lost I would say. And when you read out of book -- like Jack London -- about Canada and the north and the RCMP and cowboys. [Mike]

> I had very strong attitude towards foreign, western foreign countries because maybe you don't know -- all the Soviet people were oriented by Soviet press and TV and so on -- in Soviet we had -- we had no chance to learn about real life; we saw only the picture - propaganda. [Vince]

The first theme emerged as the participants talked about their decision to come to Canada. They all mentioned that information regarding the west was difficult to obtain, especially information that wasn't tainted by the Soviet propaganda machine. They used whatever means they could to gather information in order to make the best choices they could about their future home. But it was difficult. Often, if they were overheard asking questions, they were told to be careful. In all of these countries, secret police informants were everywhere and deserters were considered enemies of the state.

The second theme, gathering information you can trust and acting upon it, emerged as the participants described their lives after leaving their countries. Once these men had left their countries, they were much more trusting about who they would believe and accept advice from. The people they seemed to trust most were working professional engineers, either immigrant or Canadian.

> I went to Calgary. I contact several companies. I sent them, they said ok go make a résumé. I made a résumé. And I showed to some Canadian engineers. They said 'No, have to have it in a good way'. so I went to a place where I can pay money and they fix it for me. [Frank]
>
> I had a talk today with professor at university in Electrical Engineering. And he is one of persons who encouraged me to find a job, ... he helped me quite a bit. He helped me to prepare my résumé. [Vince]
>
> **Martin**: No actually my engineers, yeah ... [those he worked for]
> **Karen**: They told you?
> **Martin**: Yeah, they told me, 'You should pass only professional exams ... and two years experience, you will be professional engineer, no doubt about that ... so this stuff I can go through that, I should pass it. So I passed that.

Other people they turned to for information and advice were friends within their ethnic or larger immigrant community. Although, as will be seen later in the findings, the ethnic communities were not particularly supportive, it was still the place these men turned to when they first arrived in Canada and needed information.

> It's not difficult to explain. It's some kind of chain between people. For example I just living here but I left my telephone number in St. John so the newly arrived people can phone me and ask me information. So I used the same system .... I had lot of people in Montreal, Toronto, New York. I always try to keep this connection fresh. [Vince]
>
> About getting information. I think the Polish group is really excellent ... They always -- they will find everything -- every course -- every agency in this city...The young people -- we help each other. [Kirk]

As a result of the system these men have come from, they are very distrustful of government officials. The third theme: discarding information one can't trust, emerged frequently as they spoke of those in authority, both in their own country and in Canada. They are hesitant to believe what officials tell them and often choose to disregard advice given by officials. If it is advice or information that they find useful, they check the information through other sources, usually with other immigrants they know.

An example of this is when they are first interviewed by embassy officials in the countries they escaped to. In every case these men were told that it would be very difficult to enter their profession in Canada. They were also told they would be expected to take whatever jobs were available to them. Not one of these men accepted this as truth. Instead, upon arrival in Canada, they developed their own system for gathering information which didn't include going to government counsellors.

Language

A category that developed with all the participants was the issue of the language barrier that existed for them in Canada.

> I got an application form from APEGGA, but made mistakes filling them out because of my English, which wasn't very good when I arrived. [Allen]

> At the beginning it's very difficult - you don't know enough English. Especially technical language. I found that technical language is American technical language -- it's not English. And even if you know something in Europe -- it doesn't mean that you will have the ability to express yourself here in Canada. [Martin]

> That's a big problem -- you don't feel comfortable -- you don't think in English -- you can't use the language to express your thoughts -- and it's a big pressure -- it's going against you -- if you don't have courage to go through this hell at the beginning -- to learn. [Kirk]

> When I first came I did not have English at all -- so it was difficult when I started -- I didn't understand some people -- so these people should decide -- there is Canadian guy for example and me -- so I didn't know good English -- but I can do this work and I think I can do better work than this guy - on the same level and my position there is no doubt about that. [Martin]

Of all of the barriers facing these men, language was perhaps the most frustrating and prohibitive. Language pervaded every aspect of their lives, and was the one thing that prevented them from working to their potential. Their attitude towards it, though, was much the same as their attitude towards the other obstacles in their path: they developed a plan to overcome it.

The six men were all given ESL classes through Canada Employment and Immigration. All except Frank, who had trained in the USA and was already fluent, attended those within the first few months of their arrival. For all of them, it was the only formal ESL course they participated in. Their need for a more technical language content meant that there were no more appropriate courses available for them. As a result four of the five decided to continue studying on their own. [Vince had just completed his first language course. His level of English proficiency was still quite low and therefore, he realized he may need further ESL training in the basic structures of the language.]

> Because I haven't a job right now I think my language level will fall. I went to Catholic Social Services and their officials promised me to make some contact with a [host] family...for talk and maybe practise. I am going to take courses and at the same time I will try to find a job. [Vince]

Status

This category was an interesting phenomenon of the research findings. I had thought that engineering would be a fairly high status occupation in the Eastern bloc, as it is in Canada. I was surprised, therefore, when the men began to describe their jobs as being very low status in their countries. By 'low status' they meant that there was a giant hierarchy in place in most factories and other places that employed engineers as a result of the huge numbers of engineers that graduated each year. The hierarchical structure within each firm meant that the engineers who were newly hired were given no independent responsibilities and were checked every step of the way. They also began their careers as draftspersons, or technicians, and only assumed more design and decision-making responsibilities after many years of service. In addition, because of the communist system of rewarding labour, their wages were lower than the construction labourers that worked on the buildings or pipelines they designed. One of the participants (Vince) actually worked as a labourer at his own site in the evenings and on weekends in order to make extra money.

> If you have lots of engineers, so the standard of your occupation is low, but we couldn't compare level engineer in Canada. Not by knowledge. But salary and your position. [Martin]

> I would say it was like basic rule of communists -- usually when I've met communists -- like high communists -- they were up to certain points idiots -- they were trying to surround themselves with people like themselves. And it was falling down. Whole country - whole system was based on dictatorship of labor force. So education was kind of pushed and if you came as an engineer on a site, you were up to certain point an idiot too. ...There were a lot of high ranking engineers working -- but they were just distributing money. I know that for example welders and coal miners had twice as much as I had as engineer. [Mike]

> For example, my workmen under me has the bigger salary than me. [Vince]

When these engineers arrived in Canada, they were anticipating that they would be required to begin in a low-status position, like a draftsperson or technician. They didn't expect that their knowledge and experience would not be recognized. They were surprised to discover that they might not be able to get a lower status position even if they wanted to. They explained to me that those jobs were usually reserved for technicians with a different type of training; from technical schools, not universities. They said that it was expected that they would become accredited by the professional association before looking for work.

The five participants who had been in Canada and working for a couple of years (all except Vince), had come to the realization that engineers were well-respected, well-paid and quite independent as professionals in Canada. They realized that if they were fortunate enough to successfully complete the required examinations for APEGGA, that they would enter into a very elite group of professionals, and that they would enjoy many benefits. They understood that engineers in Canada were responsible for their own work.

> In Canada you have stamp and seal to go out and seal everything you work only. I know it's responsibility, a big responsibility for engineer. [Martin]
>
> [when asked about fairness of APEGGA exams] And technical exams naturally they know what is difficult but because you are here on your own, you have stamp, you have to know what you are doing. Back in Europe and throughout whole Eastern bloc, you don't have responsibility like here ... You are independent here, you have to stand behind your work. [Mike]

Vince, having just graduated from his ESL program when he was interviewed, was as yet unaware of how his profession was thought of in Canada. He still expected that he would be able to get a job in a related profession and that his skills would be acknowledged. When he spoke about the types of jobs that he would like, he still expected most of the available jobs to be in the government. He hadn't yet realized that most practising engineers worked independently or with private firms; that in fact the government often contracted out to private companies.

Job Entry

'Job Entry', as a category, encompasses the experiences of these men during the process of making career decisions and looking for their first job in Canada. In this discussion, I examine two aspects: 1) what they see as the main ingredient(s) for success, and 2) the information they didn't have, which the average job-seeking Canadian engineer would have.

A major focus for these six men, aside from English proficiency, was the opportunity to prove themselves in their field. The recurring theme which came out in all six interviews was that these men felt that if they were given the chance to show an employer what they knew and what skills they had, they would be able to learn the necessary English and technical components of the job in the workplace.

> Because you can have a guy who will work couple of years, or three, four, five years for a lower wage just to do what he likes to do and after that time you can give him a professional exam and put him into engineering positions. It's easy. [Allen]
>
> Let's say you give the immigrant a chance to work -- six months. If he's good, then the company will get him. He'll be relying on nobody. So you give them a chance -- let them work -- if they don't work out -- then it will be against him in the future. But you don't give -- how can you judge? The only choice is welfare. You are not solving a problem -- you are adding to it. [Frank]
>
> You have to show you can do something before you get paid. [Mike]

The biggest problem these engineers identified with getting a job was their lack of contacts within the engineering community. Both Martin and Kirk commented on the need to have contacts in the field in order to find out about projects being done or firms that were hiring. They were both frustrated with this, indicating that there was a network in place within the profession which outsiders did not have access to. Without access to this kind of information, they were severely handicapped in their ability to find work.

Kirk, the student, had decided that by going to university here and meeting Canadian students, he would be establishing contacts that would help him in the future. Martin felt that he needed to continue to work within a large company, and that his work there would put him in contact with other engineers in the community and eventually he would become a part of this network.

Each of the participants had stories to tell about their experiences looking for work. Each of the six had obtained menial labour jobs in their first few months in Canada. These had been found either through friends, CEIC counsellors or the newspaper. They seemed to have no problem understanding these systems of job search. Problems arose when they began to look for work in their field. They seemed to have some good ideas, but were not always familiar with the strategies that Canadians use for a professional job search. Again, the participants who had been in Canada longer (Martin, Mike and Allen) were more familiar with job search strategies than was Vince.

Frank and Vince both had trouble with their résumés. They were told by engineers early on that they needed to redo them and make them more professional looking. The two men were not sure what aspects of their experience and training they needed to emphasize in a résumé, nor how to use a résumé to get an interview.

When Frank first arrived in Canada, he sent his résumé to a number of firms in both Edmonton and Calgary. He did not send a covering letter, nor did he follow the résumés up with a phone call. As a result he received very few replies, and those he did receive were all negative.

Kirk, the student, also sent résumés out before he decided to go to university. He even received one interview. He describes that interview:

> But it's I think funny. I have a profession and training in Poland that's not given here. It's only given at one university in Toronto. And when I talk about this I tried to emphasize that I have the experience that's needed to work and design something like that and I had the experience in American and British type of design and international type of design -- two of them. It's nothing to them because they didn't even hear about it. [Kirk]

Allen described a similar experience when he first looked for work. In retrospect, he says that he would have been better at interviewing if he had done some research and information gathering before the interviews in order to establish exactly what type of knowledge was required.

Support Systems

> So my family (wife and even parents from old country) was the best support for me. [Mike]

Support systems seemed important to determine because their existence influenced most areas of these mens' lives. Three aspects seemed to emerge as I spoke with them. The primary support, expressed both explicitly and implicitly, was the support from spouse and other family members (children, parents, siblings). Three of the five who were married spoke of discussing decisions with their wives, studying with their wives and in general having their wives to help them. The exceptions to this were Allen, whose wife was unable to join him in Canada until 1985; Frank, who seemed to have a more traditional Muslim marriage, and of course Kirk, who remains unmarried. Kirk talked about his loneliness and how much he missed the support of his parents:

> They [parents] don't care about themselves. That's the difference between families in Poland and here in Canada - we are really close and the parents will do almost anything to help children. And they are helping to the end - when they are old ... I miss them very much. [Kirk]

This support from family members allowed the men to put the required effort into pursuing their career goals. The wives worked and looked after children while the men studied; some of them putting aside their own career goals until their husbands were established. Mike's wife, also an engineer, studied along with him. He described the encouragement they provided each other:

> Sometimes I was down and my wife kicked me and the opposite too. You have to have support within your family and you have to know for what you are working and why. [Mike]

The second support system I asked the participants about was that of their own ethnic community within Edmonton. I had assumed that there would be some systems in place within the communities for helping newcomers find work. I was surprised to hear from the participants that in fact they received very little direct support. Each of the men had sought support and each had experienced very little help from any ethnic organizations. Both Kirk and Frank articulated this in their discussions with me:

> **Karen:** Did you have any support from the Polish community?
> **Kirk**: I didn't ask them. But even if you ask -- no.
> **Karen**: And they didn't come forward?
> **Kirk**: No.
> **Karen**: At no point?
> **Kirk**: No. It's very usual and very normal for Polish people. Just to put you help -- just to allow you to be better than they are? ...They always told you that they got what they have here by very hard work so they don't want to help you to get something quickly. They always put you into the most difficult way to do the same thing they did when they came here.

Kirk said, however, that he and some other young professional immigrants from Poland had tried to form an organization to help each other. Unfortunately, they met so much resistance from the older members of the community that they were forced to give up. Kirk did not seem angry, although he was frustrated. He felt that it was the expected reaction of the community and he felt that he should pursue his goals on his own.

Frank also approached engineers within his community.

> **Karen**: What about the Arab community? Is there any support there?
> **Frank**: No-- the only thing is the mosque. Another thing about the Arabs is they never get together and share some problems.
> **Karen**: Do you know any Arab engineers in Edmonton?
> **Frank**: Yes, I do.
> **Karen**: And have you spoken with them?

> **Frank**: I did all of them -- they would like my idea and they would like to work with me and do some business. But other than that -- to give you help -- no. To take from you, yes.

Martin also experienced little vocational support from the Jewish community. Although they supported him and his family financially throughout their first year here, they discouraged both him and his wife from trying to re-enter their professions. The community was concerned that Martin work as soon as possible and become self-sufficient; and they were not prepared to support a long period of re-education.

This is not to say that there were not individuals within these communities who offered support. A Russian professor of engineering helped Vince write his résumé. A Czech engineer encouraged Mike to go after the accreditation. People in the Romanian community helped Allen with childcare while he traveled around Canada looking for work. Friends within the Arab community encouraged Frank to start his own business, and Martin's first employer was a Russian immigrant himself, who taught Martin much of the technical language he needed within his profession.

The third aspect which came out was the help these men received (or didn't receive) from the immigrant serving agencies and government departments which are in place to ease the immigrant's transition into society. Canadian immigration officials, both abroad and in Alberta, appeared to these men to be the least helpful. When I asked if these people had given the participants advice about APEGGA or their profession, the men all responded that they had been told it would be very, very difficult and that there were not very many engineering jobs available. They were also told that they were expected to enter the workforce as soon as possible and to take any job that was available. Kirk described his experience:

> **Kirk**: Even if you are trying to remind them that you are engineer, I tried to say that -- I tried to say that I want to take job which will help me to become an engineer in Canada. I didn't tell them that I want to work as an engineer -- just work which

> will help, not any job. For example, mopping or something like that.
> **Karen**: And what did she say?
> **Kirk**: She said what's required. What they will feel comfortable that they did their job that they put you into the labour force and you can be struck off the list.
> **Karen**: So you don't think there's any kind of personal interest in your needs?
> **Kirk**: Very seldom. That's the sort of thing - no one cares.

Allen, who arrived earlier in 1982, was the exception. His CEIC counsellor told him about APEGGA and sent him there to get information. I assume that it was a time when there was still work available for engineers in Alberta, and CEIC felt that they could afford to help the immigrant professionals establish themselves.

As a final footnote to this section, I should mention that I asked an APEGGA official whether the association had anything in place to assist immigrant engineers, for example job search help, counselling, etc. He mentioned that they translate foreign documents for free, although this information was not given to the engineers in any of the APEGGA literature. I was told:

> Beyond that [translation of documents] we do not provide any support services for engineers. I guess we assume that there is an infrastructure in place for foreign immigrants that would take care of most foreign immigrants' needs.

Lack of Control

An impression I had when interviewing these men is that they were people who were accustomed to having control over their lives. They were used to taking on responsibilities and making decisions, not only for themselves, but for others as well, despite the restrictions imposed on them by their governments. Things changed, however, when they arrived in Canada. Suddenly decisions were being made for them, and barriers such as language and lack of money restricted their actions. They lacked control over parts of their lives that they had formerly mastered and they found it quite stressful. Many instances of this arose in the interviews. For the purposes of this discussion, I have identified three areas that seemed of most concern, or were mentioned most often by the participants. These are lack of money, lack of contacts within the profession, and the need to rely on others for things that were formerly their own responsibility.

The first theme, lack of money, manifested itself in different ways. Kirk, as a student living on student loans, felt that the lack of money had prevented him from having a normal social life and from integrating properly with his fellow students (i.e. going out for drinks, etc.). He was also unable to join APEGGA as a student member because he simply couldn't afford it. This meant that he was unable to take advantage of the type of networking that organization might afford him. In addition, Kirk anticipated graduating with an outstanding student loan of approximately $10,000.

Martin felt a lot of pressure to support his family, which meant that he couldn't stop working to study.

> I can't stop working, you know Martha [his wife] is laid off too and she's unemployed ... and now she wants studying ... [Martin]

> [When asked if he could return to university] Now I am 36 years old, now and I have a family, and we cannot live my wife's salary at shop so I should work. [Martin]

Martin went on to say that he felt he had reached an age where he should be able to enjoy his life with his family and not be having to work day and night to obtain his accreditation.

Frank also saw money as a barrier, although he had brought some money with him from his country which he was still living on. He did say, however, that like Kirk, he could not afford to pay the fees that APEGGA required.

Mike and Allen also referred to the expense of APEGGA, but felt that the fees were not too high. They had both found work in related professions and were able to make a decent enough salary that, combined with their wives' incomes, they could lead a comfortable life, even before becoming engineers.

Vince was also eager to have a regular income. As a result of employment restrictions while on ministerial permit, he had been living on government welfare or training allowance for two and a half years and was eager to earn some money of his own.

Having money of their own, and some discretionary income to spend on a few luxuries, was important to these men. The financial situation they found themselves in was quite stressful for them.

The second area, lack of contacts within their professional community, was also a large concern.

> You should have connection. For example you grow up in Edmonton, you know people you can phone and ask. Here there are more than two hundred firms maybe. [Martin]

These men understood that networking within the engineering community was how they would find work. Meeting engineers socially or on the job was an important job search strategy, and these participants had very little opportunity to do either. Martin, Mike and Allen, who found drafting work in engineering firms early on, were able to make the necessary contacts to be able to find further opportunities.

Both Frank and Vince spoke about their fear of making the necessary personal contacts.

> I have never started to find something because I'm afraid a little bit to do it. Because of my language. [Vince]

> I don't speak with them because I don't know ... because here is the thing ... In order to start with any company like this, you have to know somebody. This is my problem. I don't know nobody. So how they know me? But if I be recommended, or if I be presented, or if I be represented by somebody ... [Frank]

Having to rely on others was difficult for these men. Upon arrival in Canada, many decisions were made for them regarding housing, schools, jobs, etc. Although they were grateful for the assistance given them, I could sense that they were frustrated by having to depend on others. I found this interesting because these men had come from environments where they had had very little freedom over many aspects of their life. I can only surmise that their experience here was different in that it affected the more personal areas of their life.

The most vivid example of this was when the men described their frustration at not having their education and experience recognized. For them it was very difficult to accept that APEGGA and/or engineers here did not believe that they were qualified.

> And I think the problem is that you can't really argue with them. You don't have experience, you don't have proof that you are right. And they can tell you everything they want and they really push you -- into a corner -- and they try to be right. And usually they are because they have a position you know. [Frank]

> I talked to one person -- I was in an engineering action electrical corporation -- some contacted firm here in Edmonton. And I talked to him about my knowledge in the electrical field. And just only one person who agreed with me that I have knowledge just without anything except English requirements -- I can start doing the job. But that was only one person. [Kirk]

Taking Control

These engineers, although finding themselves lacking control over their lives in some respects, were not adverse to taking control when they saw fit. Many of their stories included instances which reflected their ability to take control of their lives when they had the opportunity. When decisions were made for them that they felt were unfair or inappropriate or perhaps unnecessary, they took steps to change the situation. Mike was sent to an ESL program during his first months here, but quit before it was half over:

> You have to be there - but you aren't forced to study much. And you even can't study if you want. I realized that I can study more by myself if I forced myself to do that - so after 8 or 10 weeks I started looking for a job. [Mike]

Martin, when told that he had been assessed as having to take nine APEGGA exams, went to the registrar in person to protest the decision, against the advice of his employers. Unfortunately, he listened to the advice of his colleagues and didn't pursue an appeal.

Most of the men made decisions on behalf of their family. Mike's family was sent to Prince George by the officials in Vienna. Upon arrival, he discovered that his daughter reacted to the pollution there, and he chose to move to Calgary. Vince, though advised to move west immediately upon arrival in Gander, chose to go to St. John's instead until he felt ready to make the decision. Then he chose Edmonton after examining his choices carefully. Allen, once he had his citizenship, chose to work outside Canada in order to work as an engineer. Frank also, rather than be underemployed, has chosen to wait on UIC for the past four months until he obtains his citizenship and is able to work outside Canada. These examples indicate that the men resisted the pressures on them to work regardless of what the job might be. They made decisions that they felt would best serve their needs. Not all immigrants have the confidence or assertiveness to withstand the pressures to take any work that is available.

Professional Achievements

My intention in creating this category was to identify the men's achievements in their professional careers and to identify the commonalties among them.

> Look, when I finish my university -- so I have some marks -- some average -- my average was high -- so we have some proposal from structural from another university -- so I selected that. [Martin]

> My university wanted me to stay. I had a position -- some teaching and research position. [Kirk]

All of these men were high academic achievers. They mentioned this when describing their educational backgrounds. This achievement had awarded them some benefits, as high academic achievement was rewarded in the Soviet bloc countries. Kirk was given a healthy scholarship and Martin was given his choice of jobs upon graduation. Frank was given the opportunity to study in America and Mike and Allen both continued on to Master's in Engineering degrees.

These men continued to be high achievers in their work. The five who had worked in their occupation in their country (Kirk left immediately after graduation) had all held administrative positions where they were responsible for a number of other workers. Vince and Mike had both been responsible for entire projects such as building a power station in a remote region of their countries. Frank had held a job which allowed him to travel to England, America and Canada as well as around the Middle East to meet with other engineers in the oil industry. Martin, already classified as a 'senior engineer', was being considered for a promotion when he decided to escape. All of these men where still in their twenties or thirties when they left their countries, so had done very well for themselves during a relatively a short career.

In Canada, those who were given the opportunity to prove themselves (Martin, Allen and Mike) in engineering firms, were all promoted. They described themselves as being hard workers who knew their field very well and were able to take on responsibilities far beyond the expectations of their employers, who had hired them to be draftspersons.

> So I start work as a draftperson and after half a year I was good and the owners told me I'm good, because I have three months probation period. And after that, after half of year I start work as junior engineer, engineer in training. [Martin]

> I started as draftsman. But because he knew I was engineer back in our country, I was not only draftsman. I do not only drafting but calculations for him as if I were engineer and he from time

> to time double check what I have done. The more I knew what was required the more I was involved in engineering work and less in drafting. [Mike]

Vince, who is just beginning the process of looking for work is convinced that he is very well qualified for a job in his field:

> I'm a professional because its also not only one but six others specialities. It takes six Canadian engineers for one kind of job that is usually in Russia. I work alone ... I know perfectly my job. [Vince]

Accreditation

The participants had varying reactions to the issue of assessment for accreditation by APEGGA. They had very definite opinions on the subject, but were not in agreement regarding the process. Their own words, perhaps, will illustrate this most effectively:

> I got contact with them [APEGGA] one time and they said that we are not sending anybody to a job, we are just trying to be recognized and we are still waiting for the legislation...Send us [APEGGA] money. I said that I need every penny, I don't even want to send money. [Frank]

> APEGGA is now politic. Everyone, doesn't matter, from which university you are, you should pass lots of exams. But for some of them APEGGA gives only five exams for example, for another ten, for someone else eight. [Martin first interview]

> APEGGA is correct right now to put so many exams because people came from different countries. Nobody knows exactly this systems -- But I think when this council decides you -- makes some decision about your application -- so it's not correct when you can meet with these people only if you apply for appeal. These people should sit here and we will talk -- these people ask me and I answer their questions and I explain my experience, everything. Because I think it's not fair how these people decide that. People don't know you, yeah, and don't want to know you -- and decide everything. [Martin second interview]

> I wouldn't say it was very expensive [assessment process]. The most expensive part was to buy books. And I have to admit that APEGGA is trying to give you hard exams but good reference books ... Looking at that process now I think that it is a straightforward process and I realized that all this exams are done fair, there is no, nobody is trying to put you down. They just ask you certain things and they want them...only one thing that I thought was too hard was this English ... back in Europe this TOEFL for 600 points is too much. To go for graduate study or undergraduate study in the University of Calgary the TOEFL required is about 570 or 580. I thought this 600 is too hard. [Mike]

> I took so long to become accredited because of my poor English. It was my fault. [Allen]

> It's very hard to get through APEGGA when you have to work and study at the same time. It's impossible. [Kirk]

These comments about APEGGA's process seemed to be very much tied to the men's individual experiences and where they stood along their career path. Both Mike and Allen, who had successfully completed the process, were happy with it and seemed to think it was fair. Both of these men had been educated in universities which were on the foreign degree list and consequently had only been assessed three exams. Kirk had chosen to do a Master's in Engineering because APEGGA would not recognize his Master's Degree from Poland, although they would recognize his Bachelor's Degree. Martin, on the other hand, was feeling discouraged because he had been misled to believe that all he needed was two years experience and completion of the professional practice exams. Instead he was being assessed nine exams because his university was not on the list. Even after an interview with an APEGGA official, Martin was not aware that two lists existed. He had been told one year before that Russian universities would be accepted "very soon". Frank also felt that his American education should be recognized as equal. Of the six men, only Vince had no opinion on the subject. In fact, Vince had not yet heard of APEGGA and had not learned of the accreditation process.

Although they disagreed on the details of the process, the men seemed to agree that some form of assessment was warranted in order to ensure safety standards within the profession.

Time

One of the things that struck me about these stories was the amount of time every step seemed to take. For each of these men, there have been long gaps of months or years where they were in a state of limbo, unable to do anything to further their careers (except study English). For Allen, Martin, Kirk and Mike, this period was spent in a third country while they waited for a country to accept them. Kirk spent two years in Greece; the others spent six to nine months in Austria or Italy. Vince and Frank both spent time in Canada waiting for landed immigrant status; Vince 15 months, Frank two years. During his wait, Vince was not allowed to work. Frank was given a work permit and worked at a variety of menial jobs while he waited. This waiting time was difficult for these men as they were used to leading productive lives.

> And the problem is with freshness. Two years in Greece, those two years were like vacuum system. Mind vacuum system, perfect vacuum. You have to look back to the first and second year [of university] to remember. It's terrible. Everything from beginning -- I have to learn the last six months. [Kirk]

The second period of waiting was for ESL classes. Vince was the most fortunate, having to wait only three weeks. Allen, Martin, Mike and Kirk all were enrolled within six months and Frank waited four years, until he was on UIC from his job. During their wait, the men studied on their own and were able to enter the school at an intermediate level.

The third period of waiting, for all but Kirk and Frank, was for APEGGA to process the documents and to assess exams. Mike worked steadily on getting his documents and writing the exams and the process took three years from start to finish. For Allen, the entire time was ten years, but he was working outside Canada for six of those years. Martin waited one year for APEGGA to let him know that he needed to write the nine exams. During that year he wrote and passed the professional practise exam. Each of these three men were working in engineering firms during this waiting time, which meant that they were accumulating time for APEGGA's experience requirement of two years of Canadian experience.

The other three men, choosing not to become accredited, used their time effectively. Frank took courses at a Nisku petroleum plant to update his skills and knowledge. Kirk chose to go to school to get a Canadian degree, thus avoiding the APEGGA exam process. Vince is just beginning to think about his future:

> So recession passed and good times will come. So it [to find employment as an engineer] will probably take a couple of years I expect -- I hope. [Vince]

What impressed me about all of these men was that they were able to use the time effectively, either by studying on their own or working in related occupations. This perseverance and commitment to their goals seemed to be a factor in the successes they have experienced during their time in Canada. [Even Frank, though unemployed, is busy preparing brochures and making contacts for the business he hopes to begin once his citizenship papers are completed.]

Reflection

During each of the interviews, there were times when the participants reflected on their lives here and how they were feeling at the present time. Although times had been tough, and for some the future was still filled with hard work, these men were content with their lives in Canada. They were free from the restrictive governments of their countries and deeply appreciated the freedoms they and their families were afforded in Canada. They were also pleased and proud of their own efforts during their time in Canada, and had few regrets about any choices they had made.

> If you ask me am I happy in my work or not. You know I feel myself -- that this company needs me -- it's a good feeling. Now

> I do work which is important for this company. And if this company has this project I will work for this company. If company has bankruptcy so I should go. But I think that until this company have broke -- I will have a job. But now I am valuable. [Martin]

Barriers

In addition to the categories which emerged, seven areas were identified by the participants as being barriers to their full employment. These ranged from situational barriers such as a lack of money, to institutional barriers such as the accreditation policy of the professional association.

Most of these seven barriers were mentioned by each of the participants. If a barrier was not mentioned by an individual, it was often because that aspect was not relevant to his experience. An example of this might be the accreditation policy. Vince had had no experience with the policy at the time of our interviews, so it was not an issue with him at this point.

It is important to remember that the barriers discussed here were those which these six men perceived. That is to say that these same barriers may not exist for other professional engineers. Moreover, other barriers may exist which these six participants did not mention.

Immigration Policy

First, one of the issues that emerged from the interviews was that the immigration policy itself is at fault. The men, although very grateful to Canada for allowing them to live here, were confused by the mixed messages they had received. They had been told by various people in high status positions that it was because of their education and experience that they had accumulated enough points to enter the country as immigrants (except Vince and Frank who entered as asylum seekers). Yet upon arrival in this country they had been discouraged from pursuing their professional goals. I use 'discouraging' to describe both the implicit and explicit messages that these men received. Explicit messages included the communication of the entry interview where officials told them it would be very difficult to become qualified and to find work; to the settlement agency counsellor who told Martin not to even think about becoming an engineer, that it was impossible.

The more implicit messages came from within the profession itself. When Kirk went to job interviews, he was told that his specialized training was not up to Canadian standards. Another example was when both Mike and Martin were hired as draftspersons, paid as draftspersons, and then used as junior engineers. Martin anticipated losing his job if he did achieve professional status because his employer wouldn't be able to afford him any longer. As a result, he has decided to stay where he is, working as a junior draftsperson in order to maintain some security.

Lack of information

The second barrier which surfaced was the awareness by these men of their profound lack of information during their first year in Canada. Allen was the only one of the six who had been given the name of APEGGA by his CEIC counsellor. The other four (Vince was not yet at this stage) had to get that information on their own. Not one of the six were given any counselling regarding their options, the various routes they might take or the costs (personal and financial) involved in those choices. What I heard from these men is that they had to gather a lot of that information themselves. There is a risk in that immigrants may receive erroneous information from inappropriate sources. For example, Martin was told by his employers (two Canadian engineers) that he would receive his professional accreditation if he worked for two years as a junior engineer and passed the ethics exam. Following their advice he wrote and passed the ethics exam only to discover that he would be required to write nine more exams. Afterwards he felt frustrated by the fact that he had not been given accurate information.

These six men relied heavily on the information they gathered from friends and acquaintances within their ethnic communities. Often these sources were accurate. Occasionally, however, the information they received was inaccurate, for instance the issue of document translation. Martin, Kirk, Mike and Allen all had their documents translated and assessed by a service in Toronto. They paid to have this done; they were given the address by friends in the community, not by settlement or immigration counsellors. Unfortunately, neither APEGGA nor the universities in Alberta recognize those assessments. These four men could have saved themselves some time and money by going directly to APEGGA or the university in question.

Lack of caring

The participants perceived a lack of caring on the part of the officials they were in contact with throughout the process of job re-entry. Three groups were mentioned: government immigration officials, professional engineers, and the professional association, APEGGA. The perception of the participants seemed to be that they had no individual value to any of these people. Each man was only one among thousands who shared similar problems and concerns. These men found it frustrating to be merely a number or a name when they were accustomed to being in charge. This frustration was demonstrated clearly by Kirk when he described his information interviews with engineering firms, or by Frank when he talked about trying to get help from government officials. They felt that because of their education and experience they should be given more individual attention and consideration, such as someone giving them the time to sit down and listen to their unique story. APEGGA's method of using only letters and forms to communicate with new applicants was too impersonal for Frank, Mike and Martin. They wished that APEGGA could have had a more personal and encouraging approach.

Lack of ESP

The fourth barrier I identified in the data was the lack of appropriate English for special purposes (ESP) training. Frank was the only participant who was able to access specialized language training where he learned the necessary language to match the technical knowledge he already had. The five other men had been registered in the regular full-time ESL courses available to most immigrants arriving in Canada. Although these courses were useful in providing them with much needed information about

Canadian society, and improving their English proficiency, they were often too simple and slow-moving for these men. Mike dropped out of his course within the first ten weeks because he felt he could learn more quickly at home. Martin quit before his course was finished. Vince, who entered the ESL program within three weeks of his arrival in Edmonton, seemed to benefit the most from it. His English proficiency was considerably lower than that of the other five men. Even he, though, felt that he would have been able to learn both 'generic' English and technical language in a combined course, and would have been that much further ahead when finished. Those men who were able to obtain employment in a related field early on (Martin, Mike and Allen) were able to pick up much of the language they needed on the job. This seemed to be an adequate, but perhaps an inefficient way to make this necessary step.

Accreditation process

The next barrier involves the accreditation process enforced by APEGGA and legislated by the government of Alberta. For the most part the participants agreed that the process was fair, in that it ensured a high level of safety for the general public. There were specific aspects of the policy that they disagreed with, however. Two barriers were mentioned in particular, the first was the determination of the number of confirmatory examinations to be written. It seemed unfair that Martin, from the Ukraine, should have to write nine exams, while Allen and Mike were required to write only three. They were all from Eastern bloc countries where educational standards were similar.

Second, the required 600 TOEFL score was also perceived as an unfair barrier. This score is higher than any university in Alberta requires for entrance. In addition, there is some argument as to whether the TOEFL is an adequate test of the specific technical language that engineers would require on the job. Neither does TOEFL test the type of technical writing that is required of engineers. The participants felt that language proficiency should be demonstrated in a more applicable manner.

Financial constraints

The sixth barrier facing these men was the chronic shortage of money. To be a successful professional in today's job market one has to have money, to dress appropriately, to print résumés and business cards, to network adequately. These men felt the pinch of not having enough money. They were frustrated by the need to rely on government handouts and programs. They saw this barrier as a real obstacle in the pursuit of their goal.

Lack of job entry opportunities

The final barrier identified by the participants was the lack of job entry opportunities in engineering. The Canadian engineering establishment has not responded to the influx of foreign engineers by creating a system of entry level positions that would ease newly arrived engineers into the workforce. These men felt it was a barrier that they should have to compete against new graduates. They perceive themselves as far more qualified and experienced than new young graduates and feel their situation is unique. Most of these men, including Vince, had strong ideas about how this barrier could be dissolved and how new professional engineers could be brought into the workforce in a much more expedient fashion.

Summary

The fourteen categories and seven barriers that I identified emerged from the words of the participants themselves. What I have done in this chapter is to find the similarities and differences in their stories in order to find a common thread that might help me define what the 'key to success' is for immigrant professional engineers arriving in Canada. These six men have all achieved some level of success and will undoubtedly practise as professional engineers in Canada sometime in the future. Not all immigrant professional engineers achieve that level of success. If I can identify contributing factors to the success of these six men, future professional engineers may benefit. These contributing factors then, become the final stage of the coding process, the core category or story line.

In the next chapter, I will describe this core category in detail and articulate the implications I see for immigrant engineers, immigrant serving agencies, institutions and departments as well as the profession itself.

CHAPTER FIVE

Discussion and Conclusion

It is important to note that the intent of the hermeneutic paradigm in qualitative research is not to provide theory that can be generalized to the whole population. Rather it is a snapshot of a specific reality; in this instance, the reality of six professional immigrant engineers at a given point in time. From this reality a theory or story line emerges. It is hoped that this theory will provide information which will be useful in providing an impetus for both further research and further action.

As stated earlier, this study was limited to a very small group of six men. As a result, the conclusions I have drawn from their experiences may not be generalizable to any other group of immigrant professional engineers. This is not to say, however, that their stories are not useful and do not provide us with useful information about immigrant experiences.

The core category or story line that emerged from this data was this: that these six immigrant professional engineers shared a number of skills and personality traits which I believe allowed them to find success in achieving their goal of full employment. This core category I labeled "keys to success" and it contained three sub-categories: personality, support systems and motivation. I will describe these three sub-categories here, and then go on to discuss what we as Canadians could do to prevent skills such as these men possess from being wasted.

Characteristics Pertaining to Success

These men, without exception, were very self-confident. They had faith in themselves and their ability to perform the duties of their profession. Even after long months of inactivity or a number of rejections, their sense of self-esteem did not seem to waver. All of them had experienced success and high achievement in the past, and this stood them in good stead in providing confidence when they were feeling unsure of themselves here in Canada. This ability to draw upon their inner strength was important to their struggle here in Canada.

These men also drew strength from their families. All of them spoke of their families with love and respect. Those who had wives spoke of the support the women had provided and how they had shared the burdens that faced them in Canada. It was also the families that motivated these men to a large extent to succeed; they felt an obligation to support their families to the best of their ability.

These men had been excellent students in their university studies. They were good learners. This ability to acquire and synthesize knowledge was extremely important in their first few years here. They were able to learn the language quickly and to do so in large part on their own, without formalized instruction. Those who wrote the APEGGA exams were able to study at home and successfully learn the necessary material. The men who obtained employment in related jobs, such as Mike and Martin, were able to transfer their technical knowledge into English in a satisfactory way.

More than anything, these men exhibited a strong intrinsic motivation to succeed. They were determined to regain the professional status they had lost when they left their countries. This determination encouraged them to continue working very hard until they achieved their goals. Even Frank, who faced many obstacles and could easily have given up, continued to plan for his eventual success.

Implications

Is the possession of these characteristics enough? What are the implications of this study to those providing immigrant aid and assistance? How can we maximize these skills and traits in order to best serve the interests of our country and the profession of engineering? In addition, what about those foreign engineers who share the qualifications of these participants, but do not possess these characteristics? What are the implications for these people?

In order to best describe the implications I have divided this section into four main areas. Each of these areas involves a group that has contact with immigrant professional engineers in some capacity. The four areas are:

- Service providers including CEIC counsellors, ESL teachers and administrators, other adult educators, settlement workers and other ethnic and community groups.
- Government departments including immigration and other relevant funding departments both federal and provincial.
- APEGGA and the engineering profession.
- Researchers both in the academic and larger community.

Service providers

Immigrant professionals' needs are just beginning to be recognized by the service providers who work with them. Traditionally, all immigrants have been lumped together and it has been assumed that their needs are similar if not the same. They all need language training, orientation to Canadian culture and help organizing their lives. This attitude has not, however, best served the professionals' needs. As this study has indicated, these men and women may have the confidence and motivation to learn and adapt more quickly than other immigrants who lack their education and experience.

What does this mean for ESL programmers and teachers? First, there needs to be much more thought given to the specific language needs of professionals. Engineering is a profession with a great deal of technical language in a number of specialized areas. ESL programs should incorporate some of this content into English for science and technology classes which cater to the individual needs of the students enrolled. During one session these may be chemical engineers, another session it may be electrical engineers, or other immigrants in technical fields. The content cannot be fixed too rigidly, but be flexible enough to incorporate a variety of needs. Two components, however, should be fixed and included in each course. One is the use of computers in technical fields, for example for calculations and drafting. The other is to examine and practise the language that is used in the business world. This is important for these men and women to learn, because the informality and more lateral organization within the Canadian business community may be quite foreign to these professionals. Without being armed with this knowledge before looking for work in Canada, immigrants are severely handicapped.

These content-based courses should be offered to the more proficient English speakers and made available through the Labour Market Language Training program (LMLT) money rather than through the more generic Language Instruction for Newcomers to Canada or LINC-funded ESL programs. Those professionals whose English proficiency is within the LINC standards would need to complete a more 'generic' ESL program prior to enrolling in the LMLT programs.

Should these courses be available only to the more proficient English speakers? One argument says yes, because APEGGA and the engineering profession demand a high level of English in order to fulfill the requirements of accreditation. The other side of the argument, however, is also important. If lower level language learners are able to master some of the English content in their field of engineering they may be able to obtain related employment which would allow them to improve their English in a supportive, appropriate environment. Both arguments are valid and need to be weighed by individual programs as they look at the specific needs and job opportunities of their own clientele.

The second area which needs to be addressed has to do with the pace within the ESL classroom. These men demonstrated that they were highly motivated to learn English and therefore could move very rapidly through the material that was being offered them in their ESL courses. As a result they were quickly bored and some left their programs to study on their own. ESL programmers and instructors need to be aware that students such as this could benefit from an accelerated program to suit their needs, while still providing them with the essential cultural content important to every ESL course.

Such an accelerated program should be individualized and designed for independent study. It should include such activities as information gathering exercises which ask the student to interview practising engineers or to research engineering terms from an engineering journal. It could also include computer exercises related to the engineering field of choice. This type of program would introduce the more independent student to both the culture and technical English of the engineering profession.

More and more adult educators in higher education institutions such as technical institutes or universities are being faced with second language speakers in their mainstream classrooms. Traditionally, the responsibility for adjusting to the language and culture of the mainstream classroom has been held solely by the immigrant student. It is time that instructors were trained to adapt their materials and teaching style to be more inclusive of the needs of these students. It is also important that the skills and experience of these students be recognized in the classroom. Cross-cultural training which includes a basic language acquisition component should be provided to all adult educators teaching technical courses through professional development opportunities.

Settlement agencies are an integral part of the integration process. They provide language and vocational assessment and counselling to many new professionals. These agencies take a strong advocacy role on behalf of these immigrants and this essential work should be continued. In addition, these agencies should be liaising with the professional associations such as APEGGA in order to better understand the needs of the profession and the barriers that may exist. Settlement workers could work with APEGGA to clarify and simplify the language of its registration process in order to make it more accessible to the immigrant engineer.

Ethnic groups and community organizations (such as churches) provide a number of services for immigrants. These groups could enrich their programs by becoming much more knowledgeable about the needs of the different professionals they work with. They could gather information regarding educational opportunities and association registration and make it available to immigrants. To make this task less onerous, these organizations could work together to centralize this information in one location or through one agency.

Ethnic community centres should become places where new Canadians meet former immigrants in order to share information and get support for their attempts at job re-entry. Immigration is something that touches all

Canadians, and if more people get involved at the community level, the integration process can only be improved.

Government departments

Rapid technological advances in the field of engineering and the constantly changing needs of the labour market in Canada place a great deal of pressure on CEIC. It is important that incoming immigrant professional engineers be trained to respond appropriately to these constant changes. As the engineering profession becomes even more specialized, it is important that foreign embassy officials learn to assess not only the general educational level of applicants but their specific skills and experience as well. Communication between business, labour and government should also be improved in order to develop the best possible training programs for incoming professionals.

CEIC makes counselling available to each new immigrant who arrives in Alberta. The counsellors are often unable to provide foreign engineers with sufficient or accurate information regarding APEGGA or the engineering profession in general. A much stronger liaison between the professional body and the immigration department is called for if improved integration is to occur. In addition, CEIC, within its new language training policy, should be funding many more work placement programs which allow new immigrant engineers to adapt to the Canadian professional practise while providing a service as well. Both Martin and Mike began their careers in Canada by working under such programs, and they credit it with being their key to success.

The provincial government is also involved in the settlement process. ESL and work placement programs are coordinated by Advanced Education and Career Development. They also fund cross-cultural training to businesses through Alberta Vocational Colleges in Edmonton and Calgary. This department should continue to influence programming and planning decisions to encourage service providers to address the concerns discussed here.

APEGGA and the engineering profession

The engineering profession should be involved in the process of integration. In order to best utilize the potential of these immigrant professional engineers, the profession must be actively involved. A number of ideas spring to mind and I will outline them briefly here.

Work placement programs: As described above, work placement programs would involve a shared cost program between either federal or provincial governments and engineering firms to employ newly arrived engineers for a period of up to one year. The company would benefit from the knowledge and experience of the employee at very little cost, while the immigrant engineer would benefit by being able to learn the culture of engineering firsthand as well as the specialized language and tools used in Canada.

The funding body or government department profits from work placement programs in two ways. First, there is a saving in the cost of lengthy training programs for trained professionals. Second, immigrant engineers who might otherwise drop out of their profession due to lack of opportunity would be encouraged to continue working within their profession. In this way their expertise would not be wasted and they would enter a highly paid profession and subsequently pay a higher rate of income tax.

Buddy systems: Practising professional engineers could volunteer to 'adopt' an APEGGA applicant to guide them through the process of registration and examination. They could provide a sounding board for the immigrants when barriers seem insurmountable. They would also be a valuable English resource while the applicant is preparing for exams. These buddies could also be involved in the job search process and help the applicant with networking within the profession.

Tutoring: Immigrant professionals who have completed the process could be encouraged to help those who follow behind them by providing tutoring assistance to examinees.

Job Bank: APEGGA could begin to develop a clearinghouse where work placement programs could be coordinated. They are already in touch with all the practising professionals in the province. This network could be utilized to match applicants with prospective employers.

Cross-cultural training: Engineering firms should be encouraged to incorporate cross-cultural training into their training programs for all of their employees. These workshops could be developed and offered through APEGGA itself, or accessed through government institutions or private firms. This type of training would increase awareness among members of the profession of the needs and concerns of the immigrant professional engineer.

Cataloguing of foreign degrees: APEGGA should continue to increase the 'foreign degree list' in order to assess applicants fairly and equitably. This process needs to continue to include all of the countries from which foreign engineers come. At the moment, too many engineers like Martin are being discouraged from the assessment process because of the apparent discrimination of the two-list system. Applicants also need to be made aware of the difficulties facing APEGGA in the assessment of some foreign degrees, so that misunderstandings do not occur.

The communication system between applicant and APEGGA should also be strengthened. These applicants look to APEGGA to help them overcome barriers. The sheer number of applications makes personal communication very difficult at the moment. This problem needs to be examined and some measures put in place for improvement.

One suggestion might be for the association to look at installing an information line staffed by the association. This line would be toll-free throughout the province and provide personal individualized information to interested applicants. It would also allow applicants to question assessments made on their file in a confidential and immediate manner.

Researchers

The research completed here is only the beginning. Much more needs to be done in order to fully understand immigrant professional engineers' experience in order to further expedite their integration into the engineering profession and Canadian society in general.

Longitudinal studies: We need to learn much more about what happens to immigrants in the long term after they leave ESL programs. These six men provided a very small sample. Many more issues would undoubtedly come to light if larger samples were studied over a long period of time.

ESL experiences: The 600 hours of language training initially provided to many immigrants is only one of many strategies immigrants use to become proficient in English. More studies are necessary to examine what other methods exist, their success or failure and their generalizability. What can we learn from men and women who are highly motivated to learn independently?

Female and visible minority immigrant professional engineers: This study only looked at a white male sample. Are the issues and barriers the same for female immigrant engineers or for visible minorities, both men and women? Or are there additional barriers associated with gender and race?

Other professions: Can the findings of this study be used by other professions? What are the issues facing immigrant doctors, lawyers, architects, etc.? Further research within other professions could only enhance these findings. Analyzing the combined findings of such research would also be profitable in order to better identify the needs of the professional immigrant.

Related occupations: It would be useful to look at the experiences of foreign engineers who pursued careers in related professions. Their experiences would provide valuable information for future immigrant engineers.

Dropouts: Research concerning the large number of immigrant professional engineers who abandon their profession after arriving in Canada would be very useful. Further exploration of the immigrant perception of the barriers that prevent them from job re-entry would provide information to policy makers and the profession to encourage an evaluation of the system of registration.

Conclusion

The incredible potential of immigrant professional engineers needs to be recognized. At the moment, the Alberta engineering profession is utilizing only a fraction of this talent. I hope that as more studies are completed which describe successful stories like those of the six participants in this study, this fraction will grow to include a much larger portion of the thousands of immigrant professional engineers who have entered and continue to arrive in Alberta.

ADDENDUM

Personal Reflection

Three aspects of this research experience affected me in some way and I felt it would be interesting to include my reflections in this addendum.

During the process of doing this research, the research question itself underwent a number of changes. Initially, I had intended to interview a sample of immigrant engineers who had not been successful in entering the profession in Canada. As I began to speak with Kirk and Martin, the two participants I had known previously, I realized that their stories would also be interesting. After I had interviewed all six of the men I realized that a complete shift had taken place and my focus now concerned 'successful' immigrant engineers and their reason(s) for that success. There was a point during the data analysis when this shift became clear. The categories that were emerging so clearly described success rather than failure. I couldn't ignore it -- I had to work with the words in front of me! This reinforced for me the power of interpretive research. The qualitative interview allows the participants themselves to speak and it demands that researchers be extremely sensitive during the analysis in order that their biases not prevent new information from emerging.

The issue of the unsuccessful immigrant professional engineers still remains, however and needs to be examined. Some of the implications drawn from this research will apply to their situation. Much more needs to be done to identify their specific needs and the barriers they are experiencing which prevent them or hinder them in their attempts to practise their profession in Canada. A quantitative research study would help uncover the numbers of immigrant professional engineers that are not working in their fields. Further qualitative and quantitative research would help identify the problems.

This new understanding of qualitative research has increased my understanding of research in general. Before beginning this process, my 'research construct' included only number-crunching, not faces, emotions and words. This experience has illustrated very clearly for me that qualitative research is a fundamental and integral process which must be included in any examination of human action or interaction.

Finally, as an ESL teacher, the opportunity to spend two or three hours in conversation with relatively new immigrants to Canada has been invaluable. It has provided me with an entire new outlook on teaching. After many years of teaching ESL I was beginning to experience burnout. Although I didn't stop caring about the individuals I was teaching, I began to keep a larger and larger distance between my students and me. I stopped asking to hear their stories and I stopped trying to help. This research experience has allowed me to hear those stories again in a new context and with a new meaning. This fresh insight will be a valuable asset to my instruction in the future.

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